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PANASONIC AG-520VDH SERVICE MANUAL

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ORDER NO. MKE0507602CE
D1

Service Manual

TV/DVD/VCR Combination

AG-520VDH

PbF
Solder Lead free

For servicing the R4-Mechanism Chassis for PV-Model, Please refer to the R4-Mechanism-Chassis-for-PV-Model Service Manual (Order No. MKE0401000C1).

ITEM		SPECIFICATION
VCR	Video	Head: 4 rotary heads helical scanning system
		Input Level: VIDEO IN Jack (Phono type) 1.0 Vp-p 75 Ω unbalanced Output Level: VIDEO OUT Jack (Phono type) 1.0 Vp-p 75 Ω unbalanced Signal-to-Noise Ratio: SP: more than 43 dB LP/SLP: more than 41 dB
	Audio	Head: Normal Mono: 1 stationary head Hi-Fi Stereo: 2 rotary heads
		Input Level: AUDIO IN Jack (Phono type) -10 dBv 50 kΩ unbalanced Output Level: AUDIO OUT Jack (Phono type) -8 dBv 1 kΩ unbalanced
		Frequency Response: Normal Mono: SP: 100 Hz ~ 8 kHz SLP: 100 Hz ~ 5 kHz Hi-Fi Stereo: SP/LP/SLP: 20 Hz ~ 20 kHz
		Signal-to-Noise Ratio: Normal Mono: SP: more than 42 dB SLP: more than 40 dB Hi-Fi Stereo: SP/SLP: more than 60 dB
		Wow and Flutter: Normal Mono: SP: Less than 0.2 % WRMS SLP: Less than 0.4 % WRMS Hi-Fi Stereo: SP/SLP: Less than 0.015 % WRMS
	Tuner	Broadcast Channels: VHF 2 ~ 13, UHF 14 ~ 69 CABLE Channels: Midband A through I (14 ~ 22) Superband J through W (23 ~ 36) Hyperband AA ~ EEE (37 ~ 64) Lowband A-5 ~ A-1 (95 ~ 99) Special CABLE channel 5A (01) Ultraband 65 ~ 94, 100 ~ 125
	Tape Speed	SP: 1-5/16 i.p.s (33.35 mm/s), SLP: 7/16 i.p.s (11.12 mm/s) Record/Playback Time: 8 hr. with 160 min. type tape used in SLP mode
	Tape Format	Tape width 12.7 mm (1/2 inch) high density tape
DISPLAY	Picture Tube	20 inch, measured diagonally pure flat Picture Tube

ITEM		SPECIFICATION
DVD	Discs Played	(1) DVD disc (DVD-Video, DVD-R): 12 cm (5 inch) single-sided, single-layer 12 cm (5 inch) single-sided, double-layer 12 cm (5 inch) double-sided, double-layer (one layer per side) 8 cm (3 inch) single-sided, single-layer 8 cm (3 inch) single-sided, double-layer 8 cm (3 inch) double-sided, double-layer (one layer per side) (2) DVD-RAM: 12 cm (5 inch) 9.4 GB (double-sided) and 4.7 GB (single-sided) 8 cm (3 inch) 2.8 GB (double-sided) (3) Compact disc (CD-DA, Video CD, CD-R, CD-RW): 12 cm (5 inch) disc, 8 cm (3 inch) disc
	Digital Audio Output	Optical digital output: Optical connector
	Pickup	Wavelength: 655 nm (DVD), 790 nm (CD) Laser power: CLASS II
GENERAL	Power	Source: 120 V AC±12 V AC, 60 Hz±3 Hz
		Consumption: Approx. 112 W (Power on), Approx. 0.8 W (Power off)
	Television System	EIA Standard (525 lines, 60 fields) NTSC Color Signal
	Speaker	2 pieces 3 W
	Operating Condition	5 °C ~ 35 °C (41 °F ~ 95 °F) (Temperature) 10 % ~ 75 % (Humidity)
	Weight	28 kg (61.7 lbs.)
	Dimension (W x H x D)	604 mm x 520 mm x 496 mm (23-3/4 inch x 20-1/2 inch x 19-1/2 inch)
	Solder	**This model uses lead free solder (PbF).**

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 SAFETY PRECAUTIONS

1.1. GENERAL GUIDELINES

1. **IMPORTANT SAFETY NOTICE**

   There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of Combination DVD VCR whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect Combination DVD VCR from being damaged by accidental shorting that may occur during servicing.

3. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations are properly installed.

5. Before turning the receiver on, measure the resistance between B+ line and chassis ground. Connect (-) side of an ohmmeter to the B+ lines, and (+) side to chassis ground. Each line should have more resistance than specified, as follows :

B+ Line	Minimum Resistance
130 V	110 Ω (Cold chassis ground)
28 V	180 Ω (Cold chassis ground)
220 V	1 kΩ (Cold chassis ground)

6. When the TV set is not used for a long period of time, unplug the power cord from the AC outlet.

7. Potentials, as high as 33.0 kV are present when this TV set is in operation. Operation of the TV set without the rear cover involves the danger of a shock hazard from the TV set power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the CRT ground of receiver before handling the tube.

8. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.2. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 12 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet.

   Do not use a isolation transformer for this check.

2. Connect a 1.5 kΩ, 10 W resistor, in parallel with a 0.15 µF capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS.

   A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

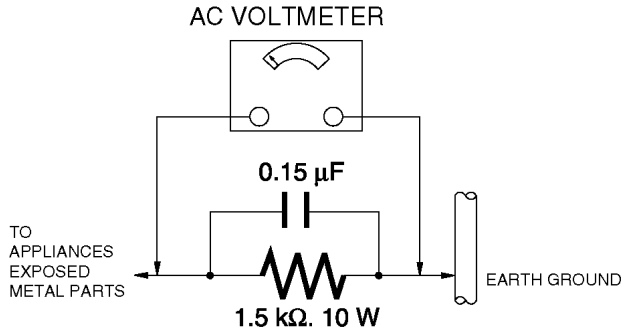


Figure 1

2 X-RADIATION

WARNING :

1. The potential source of X-Radiation in TV sets is the High Voltage section and the picture tube.
2. When using a picture tube test fixture for service, ensure that the fixture is capable of handling 33.0 kV without causing X-Radiation.

NOTE:

It is important to use an accurate periodically calibrated high voltage meter.

1. Reduce the brightness to minimum.
2. Set the SERVICE switch to SERVICE.
3. Measure the High Voltage. The meter reading should indicate 28.0 kV±1.5 kV.

   If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
4. To prevent an X-Radiation possibly, it is essential to use the specified picture tube.

2.1. HORIZONTAL OSCILLATOR DISABLE CIRCUIT TEST

SERVICE WARNING :

The test must be made as a final check before set is returned to the customer.

CONFIRMATION OF X-RAY MOVEMENT

1. Turn off TV set.
2. Connect the circuit below between TP554 and TP553 on the Deflection C.B.A.

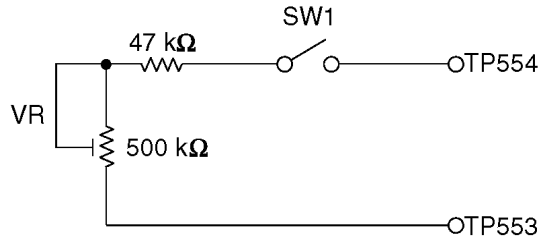


Figure 2

3. Turn on SW1 and then turn on the set. Confirm that the picture is on the screen properly.
4. Confirm that the picture goes out of horizontal sync while getting down by varying VR.
5. If this does not occur, it means that X-ray protect circuit is not operating. Further confirmation and repair is required.

2.2. REPAIR PROCEDURES OF HORIZONTAL OSCILLATOR DISABLE CIRCUIT

1. Connect a DC voltmeter between capacitor C513 (+) on the Main circuit board and chassis ground.
2. If approximately +21.5 V (For model with 20 inch CRT), +20.0 V (For model with 27 inch CRT) is not present at that point when 120 V AC is applied, find the cause. Check R508, R503, R5504, R5505, D503, C513 and C5507.
3. Carefully check above specified parts and related circuits and parts. When the circuit is repaired, try the horizontal oscillator disable circuit test again.

2.3. CIRCUIT EXPLANATION

2.3.1. HORIZONTAL OSCILLATOR DISABLE CIRCUIT

The positive DC voltage, supplied from the D503 cathode for monitoring high voltage, is applied to the IC5301 Pin11 through R508, R503 and R5504. Under normal conditions, the voltage at IC5301 Pin 11 is less than approx. 6 V. If the high voltage at Flyback Transformer Pin 5 exceeds the specified voltage, the positive DC voltage which is supplied from the D503 cathode also increases. The increased voltage is applied to IC5301 Pin11 through R508, R503 and R5504. Due to the increased voltage at IC5301 Pin11, the horizontal oscillator frequency increases, the picture goes out of horizontal sync, the beam current decreases and the picture become dark in order to keep X-radiation under specification.

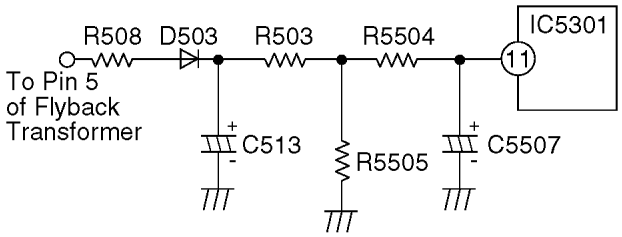


Figure 3

2.4. LASER PRODUCT

CLASS I LASER PRODUCT

- This equipment is certified to comply with DHHS Rules 21 CFR Chapter 1, Subchapter J in effect as of date of manufacture. (Only for U.S.A.)

This equipment is classified as a Class I (Class 1) level LASER Product and there is no hazardous LASER radiation with the safety protection.

Caution:

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Never touch the internal parts in order to avoid EXPOSURE TO VISIBLE LASER RADIATION.

Unplug the AC power cord to the equipment when opening the top cover.

When the power switch is On, do not place your eyes close to the front panel opening door or the other openings to look into the interior unit.

LASER Specification

Class I level A LASER Product (Class 1 level A LASER Product)

Wave Length:	640 - 677 nm (at DVD)
	770 - 810 nm (at CD)
Laser Power:	No hazardous radiation is emitted with the safety protection.

2.5. PRECAUTION OF LASER DIODE

CAUTION:

This unit utilizes a class III a laser. Visible laser radiation is emitted from the optical pickup lens when the unit is turned on:

1. Do not look directly into the pickup lens.
2. Do not use optical instruments to look at the pickup lens.
3. Do not adjust the preset variable resistor on the optical pickup.
4. Do not disassemble the optical pickup unit.
5. If the optical pickup is replaced, use the manufactures specified replacement pickup only.
6. Use of control or adjustment or performance of procedures other than those specified herein may result in hazardous radiation exposure.

3 PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors are semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   CAUTION:

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

"NOTE to CATV system installer :

This reminder is provided to call the CATV system installer’s attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical."

4 ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)

Printed case

CAUTION:

- Pb free solder has a higher melting point than standard solder;
  Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
  Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
  In case of using high temperature soldering iron, please be carefull not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.
  When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
  and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

5 SERVICE NOTES (PLEASE READ)

5.1. SERVICE NOTES

5.1.1. SELF-DIAGNOSIS INDICATION DISPLAY

Simplified Self-Diagnostic System facilitates finding the cause of the fault. The following data will be displayed on the TV screen.

The Error Code data is stored in the Memory IC (IC6004) (latest error only). This data is cleared after it is displayed, and then the POWER button is pressed back on.

1. With power turned off, press FF and REW buttons on the unit together for over 3 seconds.

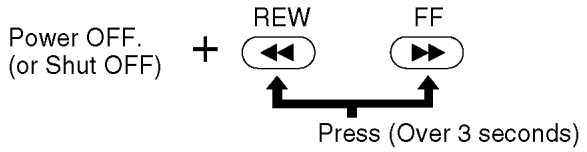


Fig. 1-1

2. TV power comes on and the unit goes into service mode.
   The following codes will be displayed.

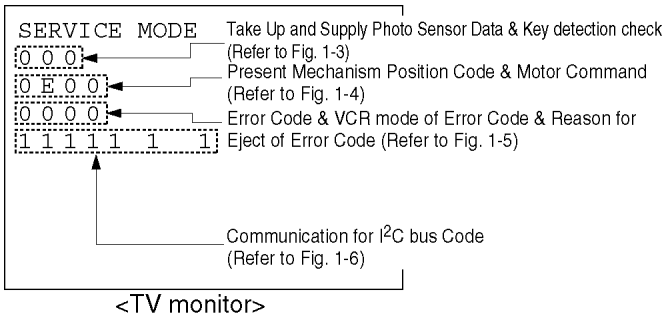
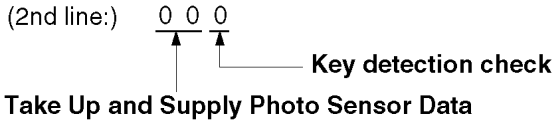

SERVICE MODE
0 0 0
0 E 0 0
0 0 0 0
1 1 1 1 1 1 1 1
Take Up and Supply Photo Sensor Data & Key detection check (Refer to Fig. 1-3)
Present Mechanism Position Code & Motor Command (Refer to Fig. 1-4)
Error Code & VCR mode of Error Code & Reason for Eject of Error Code (Refer to Fig. 1-5)
Communication for I2C bus Code (Refer to Fig. 1-6)
<TV monitor>

Fig. 1-2



Explanation of Codes	Code No.		
Take Up and Supply Photo Sensor Data			
• No light detected at either sensor.	0	0	
• Take Up Photo Sensor detected at beginning of tape.	1	0	
• Supply Photo Sensor detected at end of tape.	0	1	
• Light detected at both sensors.	1	1	

Key detection check

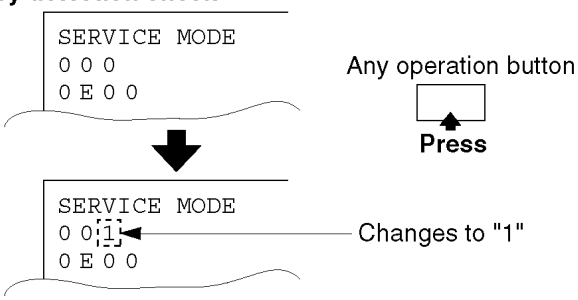
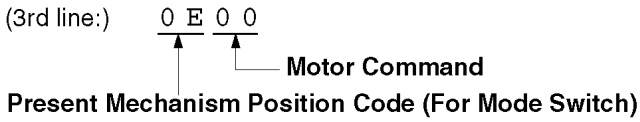


Fig. 1-3

Note:

Press any operation button except for POWER or PLAY (DVD) on either the unit, or DVD key on the remote to detecet that a key has been pressed. The 3rd digit changes to “1” only when key is detected.



Explanation of Codes	Code No.			
Present Mechanism Position Code				
• EJECT	0	E		
• CASSETTE DOWN	0	2		
• CASSETTE DOWN	0	3		
• CASSETTE DOWN	0	4		
• REV	0	5		
• PLAY	0	6		
• CYLINDER STOP	0	7		
• STOP R	0	8		
• STOP F	0	9		
• FF/REW	0	C		
• Intermediate positions between each positions	0	F		
Explanation of Codes	**Code No.**			
Motor Command				
• Cylinder OFF /Capstan OFF			0	
• Cylinder OFF /Capstan ON (FWD)			1	
• Cylinder OFF /Capstan OFF			2	
• Cylinder OFF /Capstan ON (REV)			3	
• Cylinder ON /Capstan OFF			8	
• Cylinder ON /Capstan ON (FWD)			9	
• Cylinder ON /Capstan OFF			A	
• Cylinder ON /Capstan ON (REV)			B	
• Loading Motor OFF				0
• Loading				1
• Unloading				2
• Loading Motor Brake				3

Fig. 1-4

(4th line:) 0 0 0 0

- Reason for Eject of Error Code
- VCR mode of Error Code
- Error Code

Explanation of Codes		Code No.			
Error condition	**Remedy/Check**				
No Error		0	0		
CYL PFG pulse can not be detected when the Cylinder starts.	Please check the Cylinder motor, Cylinder drive circuit and CYL PFG signal circuit.	0	1		
CAP FG pulse can not be detected during the Mechanism Initial operation (Tape rewinding by the S-Reel) at DOWN position.	Please check the Capstan motor, Capstan drive circuit and CAP FG signal circuit	0	2		
Loading Lock during Loading operation at DOWN position.	Please check the Mechanism, Loading Motor, Drive circuit, Drive control signal circuit, Mode Select SW and the Mode Select SW input signal circuit.	0	3		
Loading Lock during Unloading operation at DOWN position.	Please check the Mechanism, Loading Motor, Loading Motor drive circuit, Loading motor drive control signal circuit, Mode Select SW and the Mode Select SW input signal circuit.	0	4		
S-reel pulse can not be detected during Unloading operation.	Please check the Mechanism S-reel system, S-reel sensor, S-reel sensor input signal circuit, Capstan motor, Capstan motor drive circuit, Capstan control signal circuit, and so on.	0	5		
Loading (cassette) Lock during Cassette Up operation.	Please check the Mechanism, Loading motor, Loading motor drive circuit, Loading motor drive control signal circuit, Mode Select SW and the Mode Select SW input signal circuit.	0	6		
Head clog detection.	Clean the Cylinder Head.	1	1		
The position signal from Mode Select SW can not be detected.	Check Mode Select SW contact.	1	4		
CAP FG pulse can not be detected during Cassette in operation.	Please check the Capstan motor, Capstan motor drive circuit and the CAP FG signal circuit.	1	5		
Cylinder Lock	Please check the Cylinder motor, Cylinder motor drive circuit and the CYL HSW signal circuit.	1	6		
S-reel Lock.	Please check Mechanism S-reel system, S-reel sensor, S-reel sensor input signal circuit, Capstan motor, Capstan motor drive circuit, Capstan control signal circuit, and so on.	1	7		
T-reel Lock.	Please check Mechanism T-reel system, T-reel sensor, T-reel sensor input signal circuit, Capstan motor, Capstan motor drive circuit, Capstan control signal circuit, and so on.	1	8		
Eject operation due to error condition.	Please check the Cassette tape, S-photo sensor, S-reel and Capstan system.	8	0		
Disc Motor of DVD Mechanism Unit error	Please check the Disc Motor of DVD Mechanism Unit, and confirm the DVD Service Mode II.	9	0		
VCR mode of Error Code • STOP • EJECT • REW • FF • REV • CUE • SLOW • POWER OFF • PLAY • STILL • REC • REC PAUSE				0 1 2 3 4 5 6 7 8 9 A B	
Reason for Eject of Error Code • No reason. • Cassette tape is off from S-Post at DOWN position. • Capstan motor can not rotate. • Mechanism Lock during Loading operation at DOWN position. • Both ends of tape is detected at DOWN position. • No reason.					0 1 2 3 4 C

(5th line:) 1 1 1 1 1 1 1

Communication check for I²C bus

- IC6001 ◄►IC6004
- IC6001 ◄►IC5301
- IC6001 ◄►IC3001
- IC6001 ◄►IC4201
- IC6001 ◄►IC4601
- IC6001 ◄►U7001
- IC6001 ◄►IC8001

Explanation of Codes	Code No.								
Communication check for I²C bus (IC6001◄►IC6004) ----- NG	0								
OK	1								
Communication check for I²C bus (IC6001◄►IC5301) ----- NG		0							
OK		1							
Communication check for I²C bus (IC6001◄►IC3001) ----- NG			0						
OK			1						
Communication check for I²C bus (IC6001◄►IC4201) ----- NG				0					
OK				1					
Communication check for I²C bus (IC6001◄►IC4601) ----- NG					0				
OK					1				
Communication check for I²C bus (IC6001◄►U7001) ----- NG						0			
OK						1			
Communication check for I²C bus (IC6001◄►IC8001) ----- NG									0
OK									1

Fig. 1-6

5.1.2. USAGE SCREEN MODE

This function is displayed on the TV monitor:

- the total AC plugged in AC socket (in days)
- the total elapsed "Cylinder rotation" time (in hours)
- the total elapsed "DVD play" time (in hours).

1. With power turned and no cassette, press STOP/EJECT button on VCR and 7 key on remote together.

   The USAGE SCREEN will be displayed on the TV Monitor.

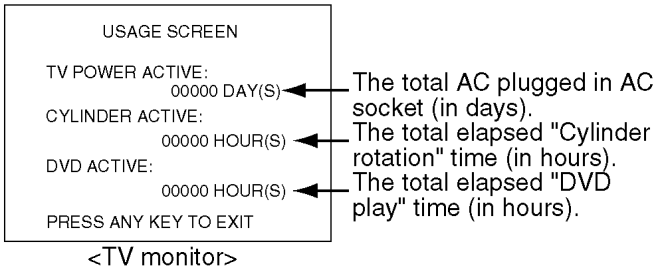

USAGE SCREEN
TV POWER ACTIVE:
00000 DAY(S)
CYLINDER ACTIVE:
00000 HOUR(S)
DVD ACTIVE:
00000 HOUR(S)
PRESS ANY KEY TO EXIT
The total AC plugged in AC socket (in days).
The total elapsed "Cylinder rotation" time (in hours).
The total elapsed "DVD play" time (in hours).
<TV monitor>

Fig. 2

Note:

1. After replacing the Cylinder Unit, press COUNTER RESET button on remote in this mode. Only Total elapsed "Cylinder rotation" time (in days) will be cleared to 0.
2. After replacing the DVD Unit, press ADD/DLT button on remote in this mode. Only Total elapsed time "DVD Play" time (in hours) will be cleared to 0.
3. To release from Usage Screen Mode, press any operation button on VCR or insert a cassette tape in this mode. VCR will return to normal operation mode.

5.1.3. GROUNDING FOR ELECTROSTATIC BREAKDOWN

Prevention

1. Human body grounding

   Use the antistatic wrist strap to discharge the static electricity from your body.

2. Work table grounding

   Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pickup.

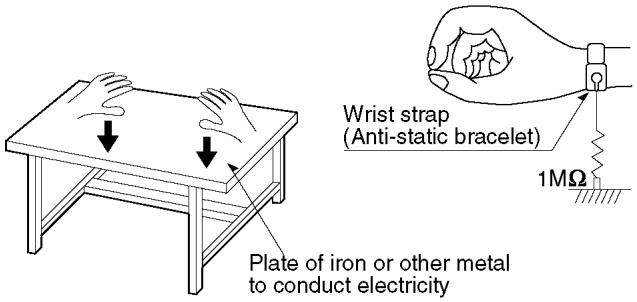


Fig. 3

5.1.4. METHOD FOR EJECTING THE DVD TRAY MANUALLY

1. Insert a Screwdriver or similar object into the Eject hole.
2. Press it gently, and then pull the Tray fully out.

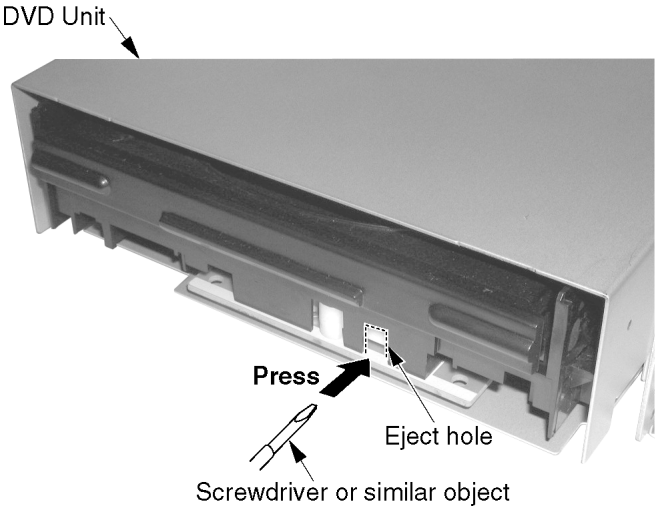


Fig. 4

5.1.5. DVD SERVICE MODE

This unit has a Self-Diagnostic function which detects a problem or malfunction within the unit and displays on the TV screen.

5.1.5.1. How to enter DVD Service Mode

1. Set the unit to DVD mode.
2. Press and hold STOP/EJECT, PLAY, and VOL - buttons of VCR operation panel of the unit together for over 5 seconds with no cassette inserted. The adjustment overlay will appear on the TV screen.

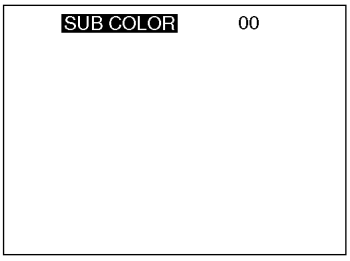


Fig. 5-1

3. Press DISPLAY key on the remote control to enter the DVD Service Mode I.

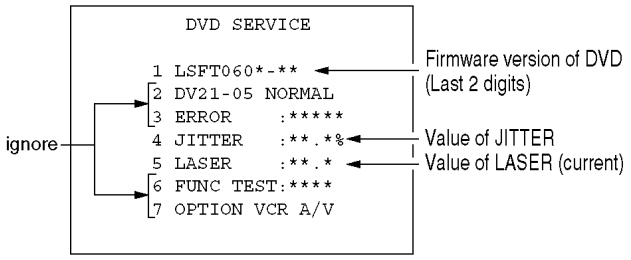


Fig. 5-2

4. Press the LEFT or RIGHT key on the remote again to enter DVD Service Mode II.

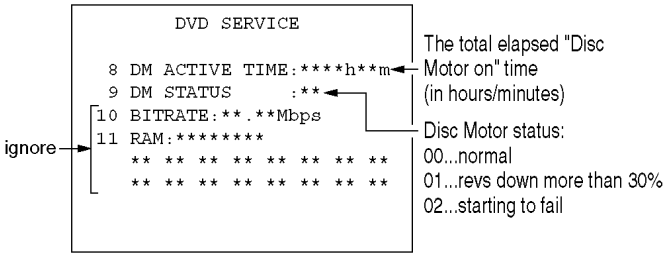


Fig. 5-3

Note:

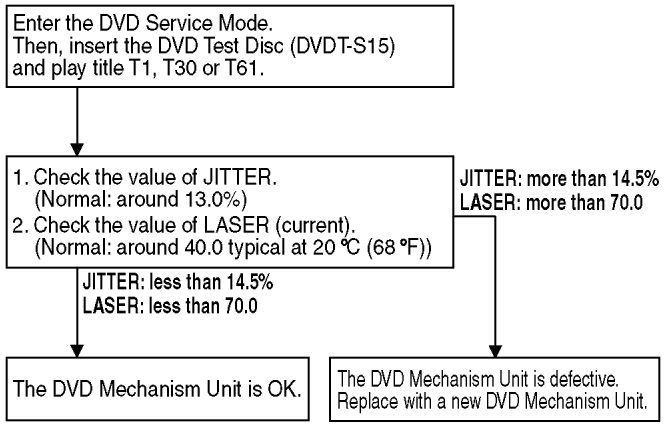
a. After replacing the DVD Unit, press the CLEAR key on the remote in this mode. The total elapsed "Disc Motor on" time (in hours/minutes) will be cleared to 0.

b. If 01 or 02 is always displayed in 9 DM STATUS, replace the DVD Unit because the Disc Motor is defective.

5. To confirm the value of JITTER and the value of LASER (current), insert the DVD Test Disc into the DVD Unit.
6. To release from this mode, turn off the power.

5.1.5.2. Troubleshooting hint (standard) for this mode

It can be determine if the DVD Mechanism Unit is defective by checking the value of JITTER and the value of LASER (current).


Enter the DVD Service Mode.
Then, insert the DVD Test Disc (DVDT-S15)
and play title T1, T30 or T61.
1. Check the value of JITTER.
(Normal: around 13.0%)
2. Check the value of LASER (current).
(Normal: around 40.0 typical at 20 ℃ (68 °F))
JITTER: more than 14.5%
LASER: more than 70.0
JITTER: less than 14.5%
LASER: less than 70.0
The DVD Mechanism Unit is OK.
The DVD Mechanism Unit is defective.
Replace with a new DVD Mechanism Unit.

5.1.6. SERVICE POSITION

Service Position	Purpose
Service Position (1)	Main C.B.A. check
Service Position (2)	DVD Main C.B.A. check Mechanism check Mechanical adjustment Electrical adjustment
Service Position (3)	Main C.B.A. check Deflection C.B.A. check

CAUTION:

1. **HOT CIRCUIT** (Primary circuit) exists on the Main C.B.A.

   Use extreme care to prevent accidental shock when servicing.

2. Before connecting the AC plug, be sure to confirm the connection between the Connector P502 on the Deflection C.B.A. and P851/P852 on the Main C.B.A. Otherwise, some electrical parts may be damaged due to a sudden power surge.

Note:

When carrying out loading of the cassette tape, if light is strong, a tape may not carry out loading. Please shade a Mechanism top or weaken lighting.

5.1.6.1. How to obtain Service Position for Combination DVD VCR models

To obtain these Service Positions, the 2 Extension Cables 13P (LSUA0047) and 16P (LSUA0048) are necessary.

5.1.6.1.1. Service Position (1)

1. Remove the Rear Cover. Then, pull the VCR/DVD Ass'y out and place it upright.

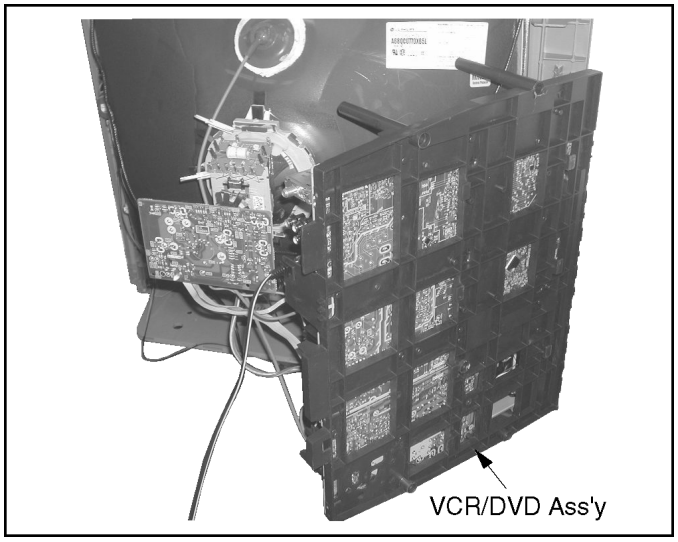


Fig. 6-1

5.1.6.1.2. Service Position (2)

1. Remove the Rear Cover. Then, turn the VCR/DVD Ass'y to the right.
2. Connect the DVD Main C.B.A. using the Extension Cable 16P.

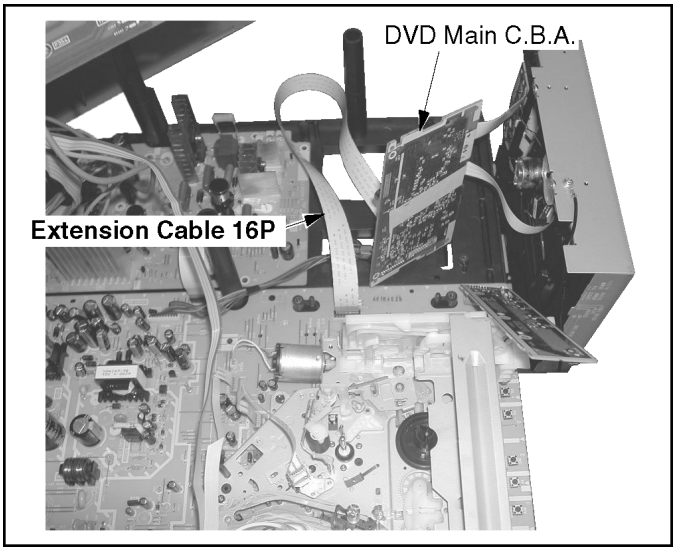


Fig. 6-2

5.1.6.1.3. Service Position (3)

1. Remove the Rear Cover. Then, pull out the VCR/DVD Ass'y.
2. Place the Deflection C.B.A. and the Main C.B.A. upright. Then, connect them using the Extension Cable 13P.

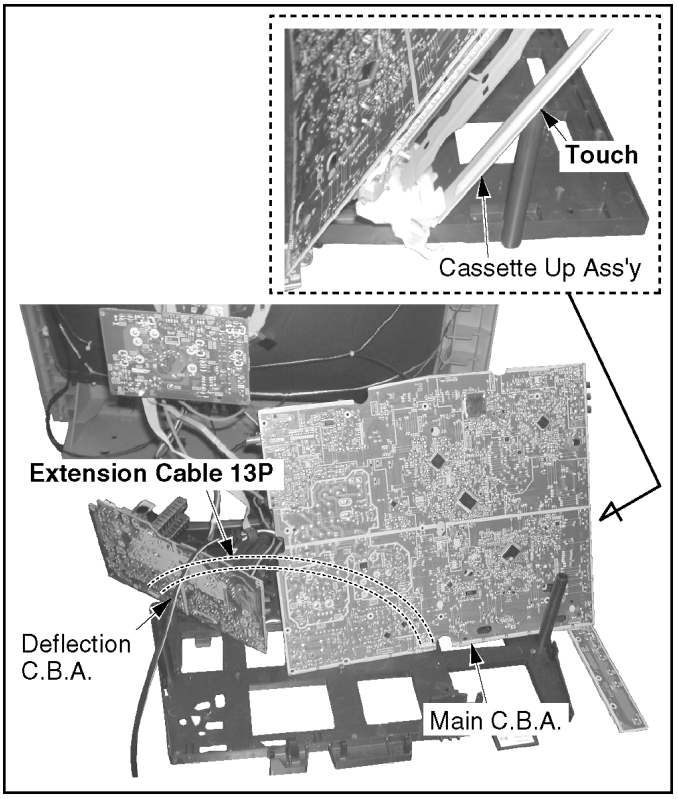
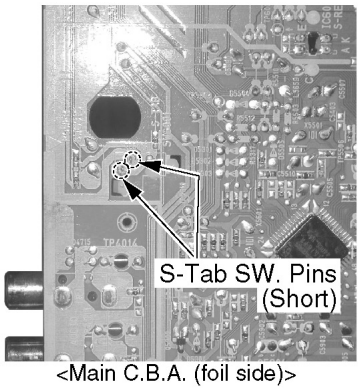


Fig. 6-3

Note:

It is possible that the S-Tab SW. may not work correctly in Service Positions (3). (Recording can not be done). In this case, short the S-Tab SW. Pins on the foil side of Main C.B.A. to turn this SW. on.



<Main C.B.A. (foil side)>

Alternative method:
Cover the S-Tab SW. with masking tape.

5.1.7. HOT CIRCUIT

Primary circuit exists on the Main C.B.A.

This circuit is identified as " **HOT** " on the C.B.A. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

5.1.8. SERVICE MODE

In order to inhibit detection of the Supply & Takeup Photo Transistors, Reel Sensor, and Cylinder Lock can be inhibited. In this mode, Mechanism movement can be confirmed. When removing Cassette Up Ass´y, it can be confirmed without a cassette.

To enter Service Mode:

Press and hold STOP/EJECT, PLAY and CH DOWN buttons on the unit together over 5 seconds in power on condition. The unit goes into Service Mode.

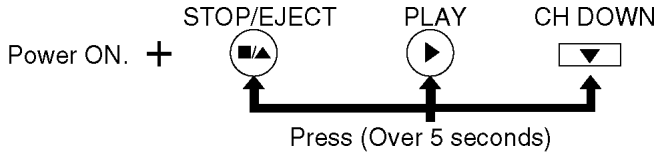


Fig. 7-1

To release from this mode, disconnect AC Plug.

5.1.9. MECHA MANUAL MODE

In shut off condition or in Service Mode, press the CH UP on the unit and CH UP buttons on the remote together without a cassette.

In this mode, Loading or Unloading operation can be confirmed by pressing the REW/SLOW or FF/SLOW button on the remote.

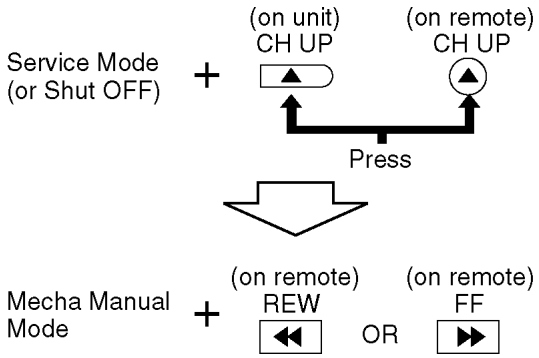


Fig. 7-2

To release from this mode, disconnect AC Plug.

Note:

When Loading with no cassette tape, push the portion (A)on Cassette Holder Unit so that the Sefety Lever clear the 2 Tabs as show in below.

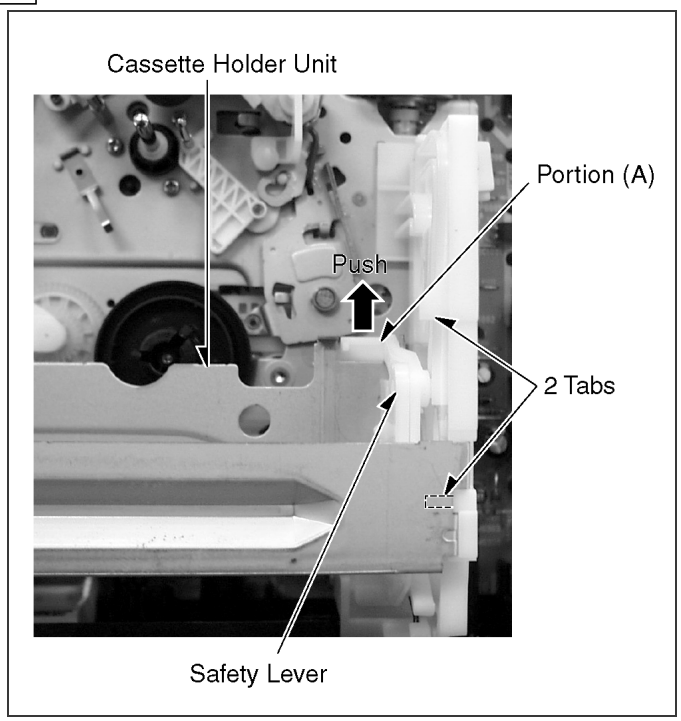


Fig. 7-3

5.1.10. TRACKING CENTER MODE (TRACKING FIX AT CENTER)

Insert the Cassette tape. Set the unit into Service Mode.

Press CH UP on the unit and CH DOWN buttons on the remote together in play back mode.

In this mode, the tracking is fixed at center. (Auto tracking and manual tracking functions are not operational.)

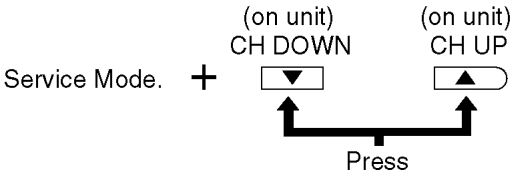


Fig. 8

5.1.11. DEFEATING THE AUTO TRACKING

To defeat the Auto Tracking Function, place the instrument in the STOP mode and place a jumper between TP6003 and TP6009 on the Main C.B.A. The tracking will be placed in the neutral position.

5.1.12. CAUTION FOR INSTALLATION OF VCR/DVD ASS'Y

CAUTION:

Opener Lever may be damaged when VCR/DVD Ass'y is installed, with Cassette Door-Lid and Opener Lever of Cassette Up Ass'y set incorrectly.

Install the VCR/DVD Ass'y as follows:

1. Swing the Cassette Door-Lid all the way open until the Cassette Door tab clears the Opener Lever.
2. Make sure that all guide tabs are aligned properly. Then, press the VCR/DVD Ass'y straight in.

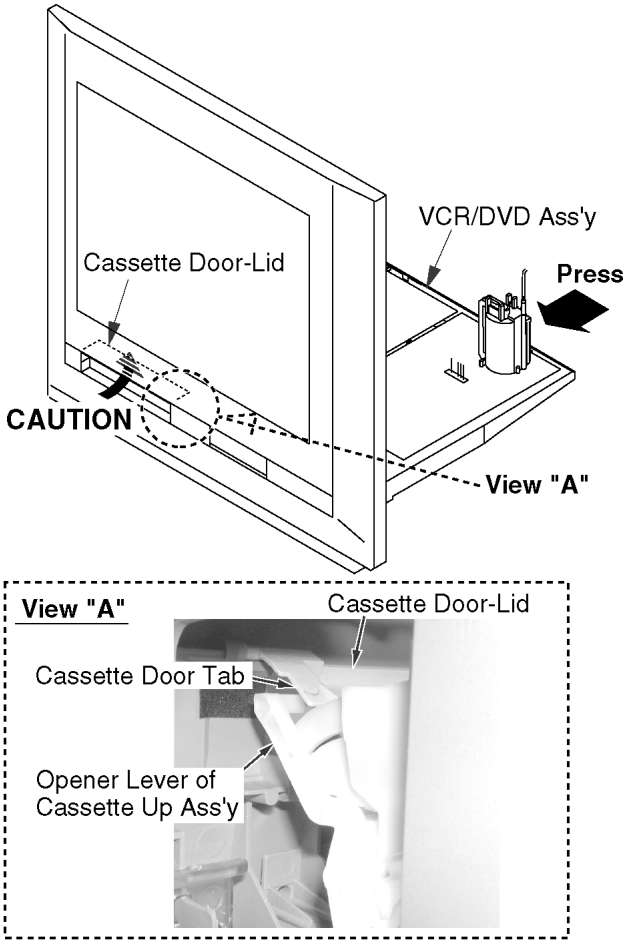


Fig. 9

5.1.13. F.F.C. CONNECTION NOTE

5.1.13.1. F.F.C. between the Mechanism and the Main C.B.A.

Be careful with the direction of F.F.C.s to connectors as shown.

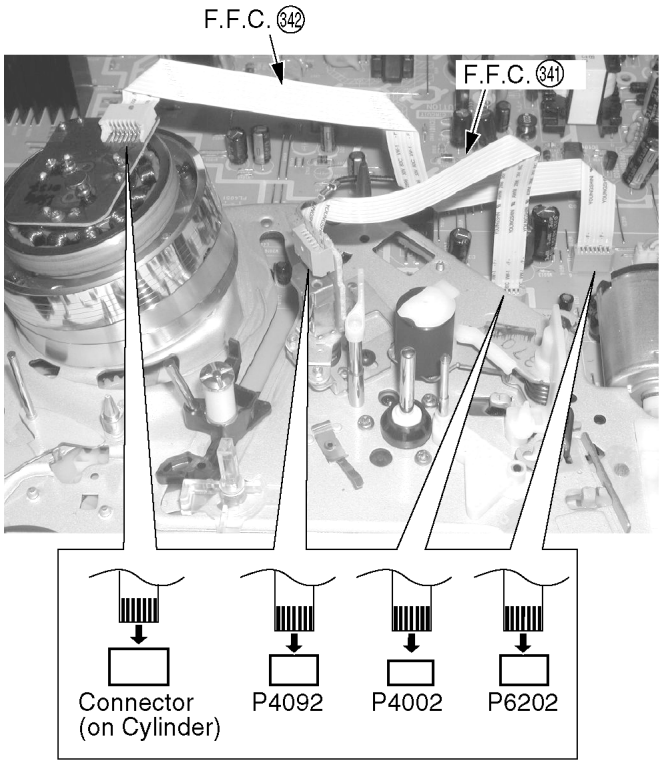


Fig. 10

5.1.13.2. F.F.C. between the DVD Unit (DVD Main C.B.A.) and the Main C.B.A.

Be careful with the direction of F.F.C. to connector as shown.

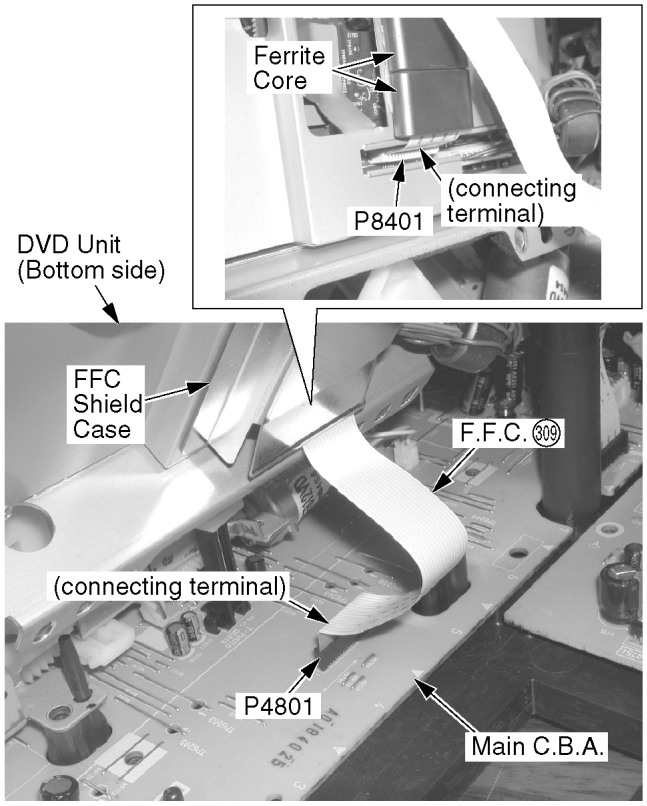


Fig. 11

5.1.14. WIRE AND LEAD POSITION DIAGRAM

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.

Note:

No lead wires or flat cables should touch any heating parts or the Heat Sink Plate.
Use extreme care especially for followings.

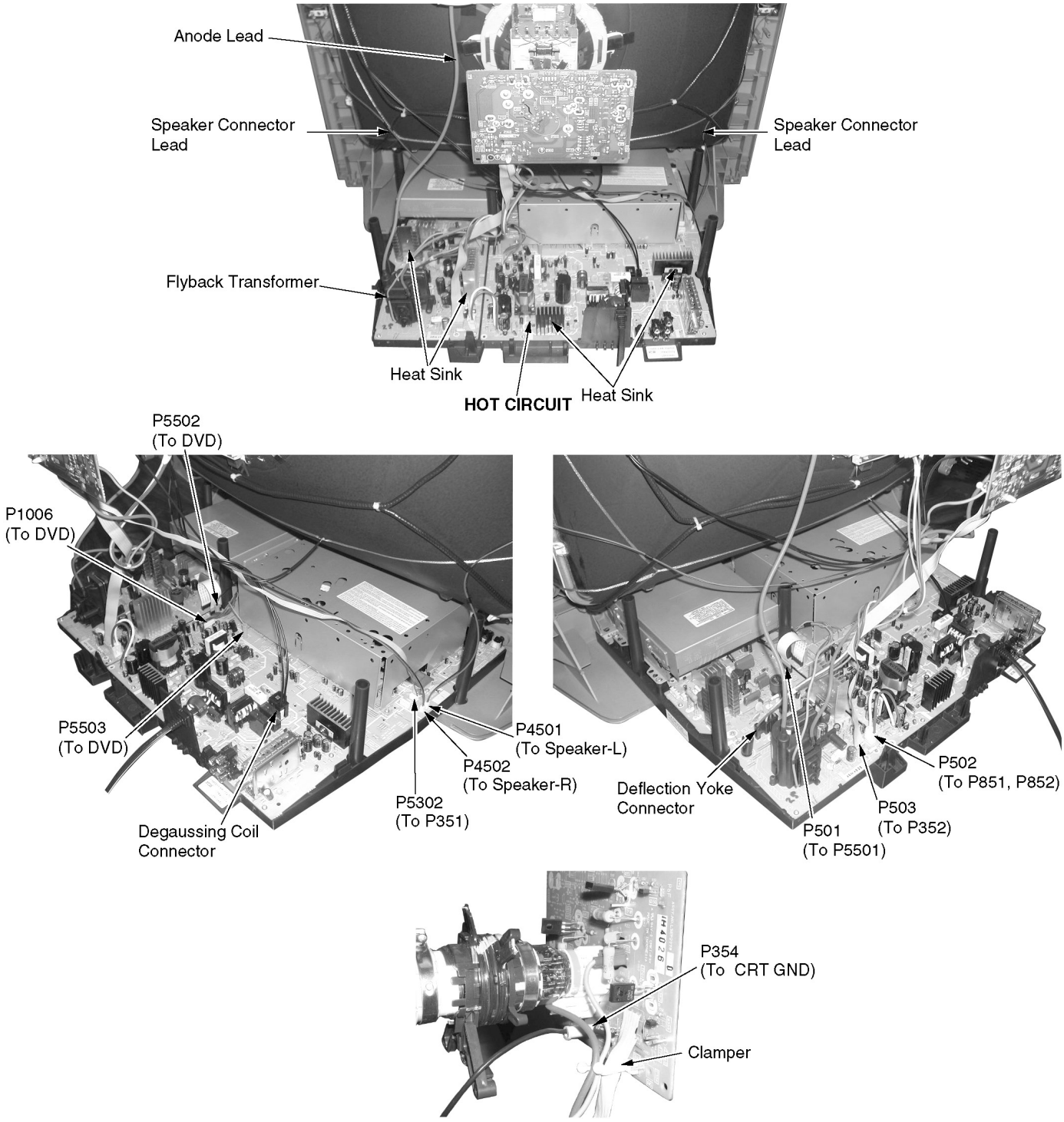


Fig. 12

5.1.15. HOW TO SET TRACKING TO THE NEUTRAL POSITION

Ejecting the cassette tape and then reinserting it will reset the tracking to the Neutral position.

5.1.16. BLACK SCREWS ON THE CHASSIS

Black Screws are used on the Mechanism Chassis to identify screws that require adjustment.

5.1.17. HOW TO RESET ALL COMBINATION DVD VCR MEMORY FUNCTIONS

To reset (clear) the select language, channel auto set and set clock functions to their initial power on condition (power on, no cassette inserted), hold down the PLAY and FF buttons of VCR operation panel on the unit together for more than 5 seconds.

Power will shut off.

5.1.18. HOW TO CONFIRM AUTO CLOCK SET FEATURE

1. Connect an RF cable from the output of one unit to the input of the test unit.
2. Select corresponding RF channels.
3. Playback a recording of P.B.S. channel including clock set data and confirm this feature.

5.1.19. VARIABLE VOLTAGE ISOLATION TRANSFORMER

An Isolation Transformer should always be used during the servicing of Combination DVD VCR whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect Combination DVD VCR from being damaged by accidental shorting that may occur during servicing.

Also, when troubleshooting the above type of Power Supply Circuit, a variable isolation transformer is required in order to increase the input voltage slowly.

5.1.20. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

5.2. MAINTENANCE CHART

The following chart indicates the schedule for the periodic maintenance which will prolong the life of the machine.
Since the parts are keyed to the Inner Parts Location Diagram, when you replace the following parts, refer to the diagram.

	Parts Name	Unit or Part No.	Hour									
			500	1000	1500	2000	2500	3000	3500	4000	4500	5000
1	Cylinder Unit	LSVD0010	●	◎	●	◎	●	◎	●	◎	●	●
2	Audio Head Unit	LSEH0012	●	●	●	●	●	●	●	◎	●	●
3	Pinch Arm Unit	VXL3109	●	●	◎	●	●	◎	●	●	◎	●
4	Reel Table	VDR0372	●	●	●	●	●	●	●	◎	●	●
5	S Reel Shaft	————				○				○		
6	T Reel Shaft	————				○				○		
7	Capstan Ass'y	VEM0800										◎
8	Capstan Shaft	————	●	●	●	●	●	●	●	●	●	●
9	T Brake Arm Unit	VXL3121				◎						
10	Loading Motor Unit	VEM0796				△				◎		
11	Tape Transport	————	●	●	●	●	●	●	●	●	●	●
12	Supply Shaft Holder Unit	VXA7105				△				△		
13	Take Up Shaft Holder Unit	VXA7106				△				△		
14	Capstan Belt	VDV0391				◎						
15	Tension Arm Unit	VXL3111				◎						

※ NOTE

Symbol	Maintenance	Requirement	Remark
●	Cleaning	Ethanol or Cleaning Liquid (Purchased Locally)	Wipe dirt from the parts using soft cloth impregnated with Ethanol. Note : When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol away quickly and thoroughly.
◎	Replacement	————	————
○	Lubrication	High Quality Spindle Oil (Purchased Locally)	Supply one or two drops of oil.
△	Greasing	Grease	Wipe away the old grease and apply new grease.

6 DISASSEMBLY/ASSEMBLY PROCEDURES

6.1. CABINET SECTION

6.1.1. Disassembly Flowchart

Perform all disassembly procedures in the order described in the "Disassembly Flowchart" shown below.

When reassembling, use the reverse procedure.

CAUTION:

1. Disconnect AC plug before disassembly.
2. Before connecting the AC plug, be sure to confirm the connection between the Connector P502 on the Deflection C.B.A. and P851/P852 on the Main C.B.A. Otherwise, some electrical parts may be damaged due to a sudden power surge.

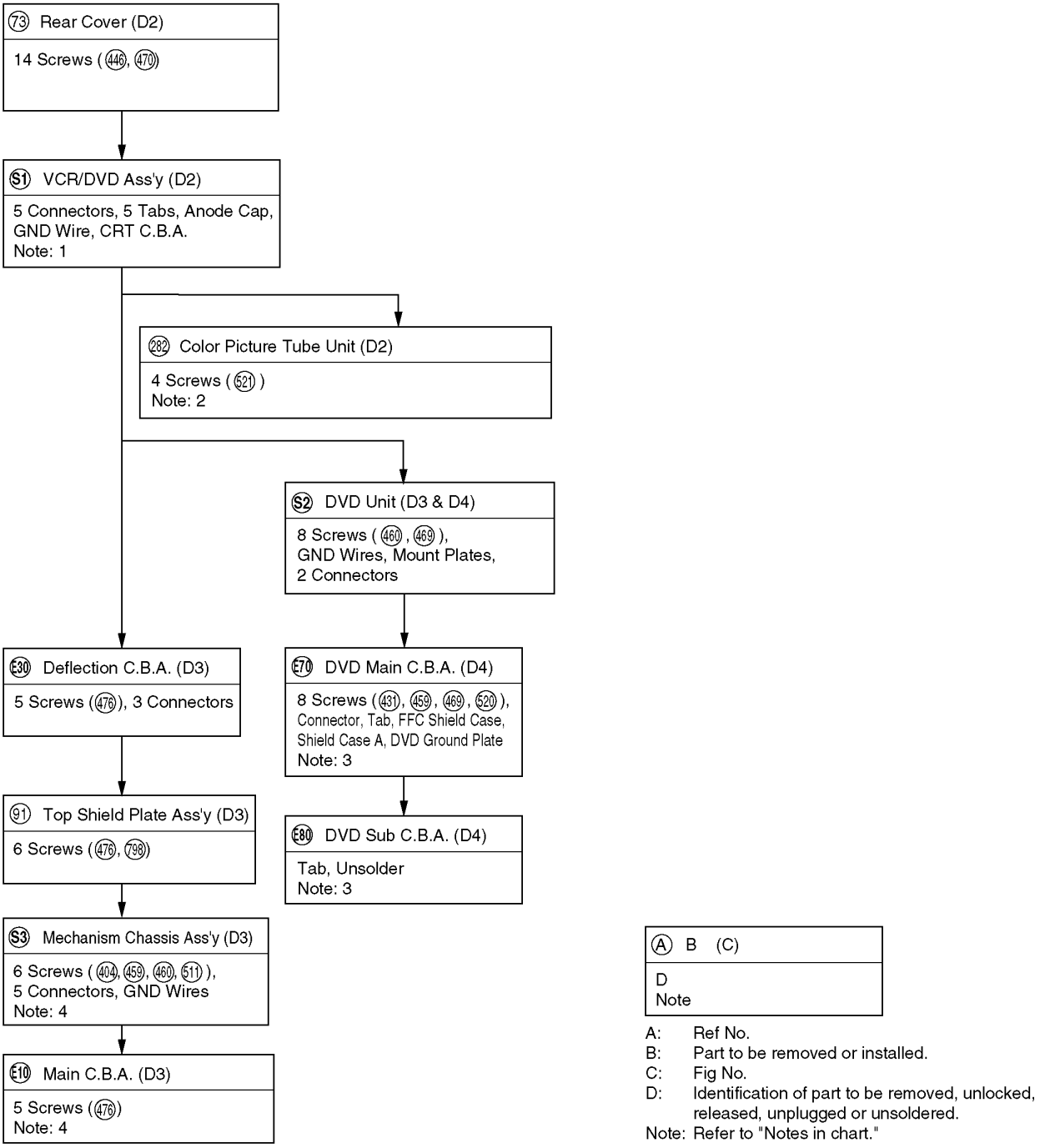

73 Rear Cover (D2)
14 Screws (446, 470)
S1 VCR/DVD Ass'y (D2)
5 Connectors, 5 Tabs, Anode Cap, GND Wire, CRT C.B.A.
Note: 1
282 Color Picture Tube Unit (D2)
4 Screws (521)
Note: 2
S2 DVD Unit (D3 & D4)
8 Screws (460, 469), GND Wires, Mount Plates, 2 Connectors
E30 Deflection C.B.A. (D3)
5 Screws (476), 3 Connectors
E70 DVD Main C.B.A. (D4)
8 Screws (431, 459, 469, 520), Connector, Tab, FFC Shield Case, Shield Case A, DVD Ground Plate
Note: 3
91 Top Shield Plate Ass'y (D3)
6 Screws (476, 798)
E80 DVD Sub C.B.A. (D4)
Tab, Unsolder
Note: 3
S3 Mechanism Chassis Ass'y (D3)
6 Screws (404, 459, 460, 511), 5 Connectors, GND Wires
Note: 4
E10 Main C.B.A. (D3)
5 Screws (476)
Note: 4
A B (C)
D
Note
A: Ref No.
B: Part to be removed or installed.
C: Fig No.
D: Identification of part to be removed, unlocked, released, unplugged or unsoldered.
Note: Refer to "Notes in chart."

Fig. D1

Note: Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

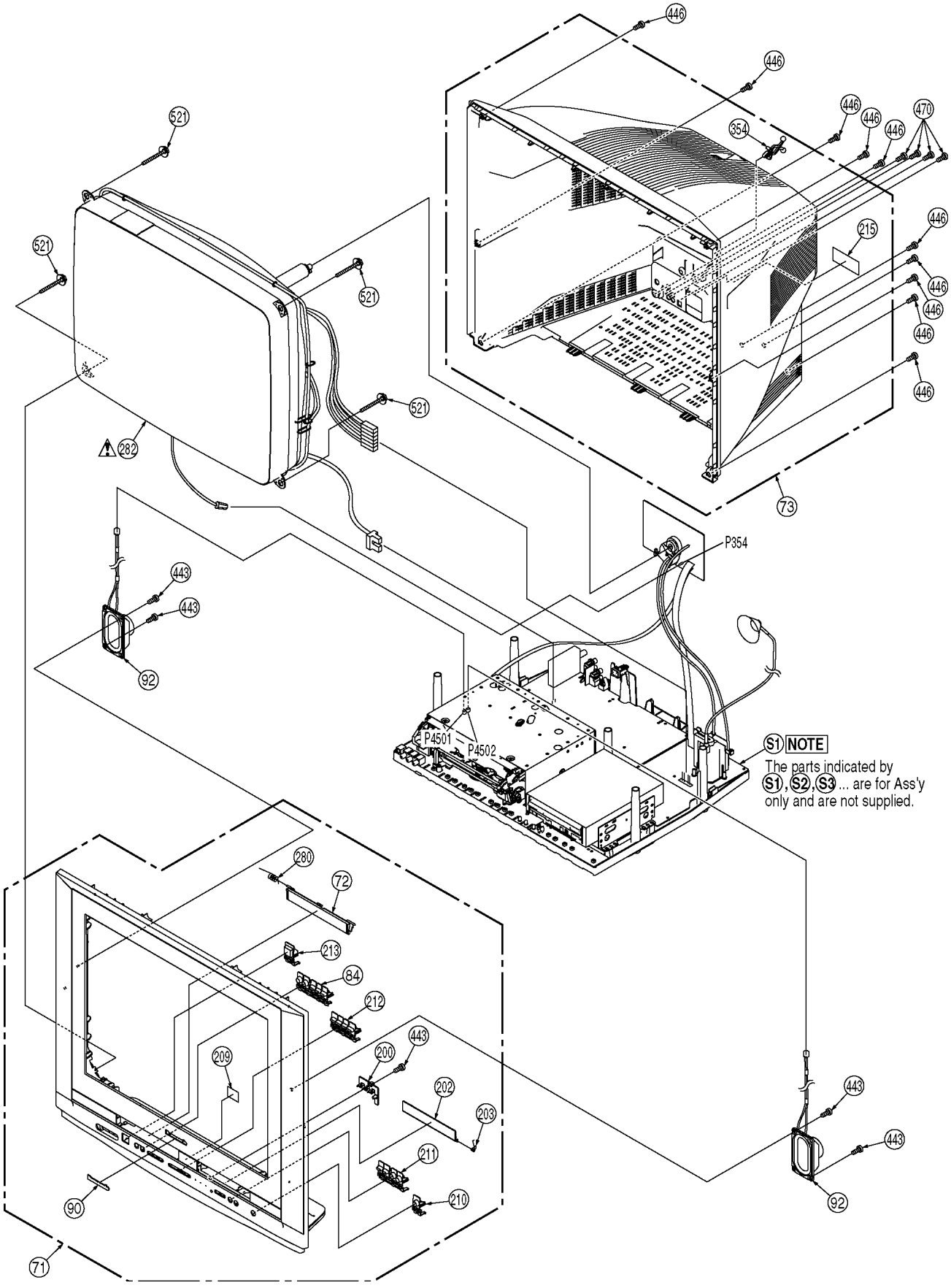


Fig. D2

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

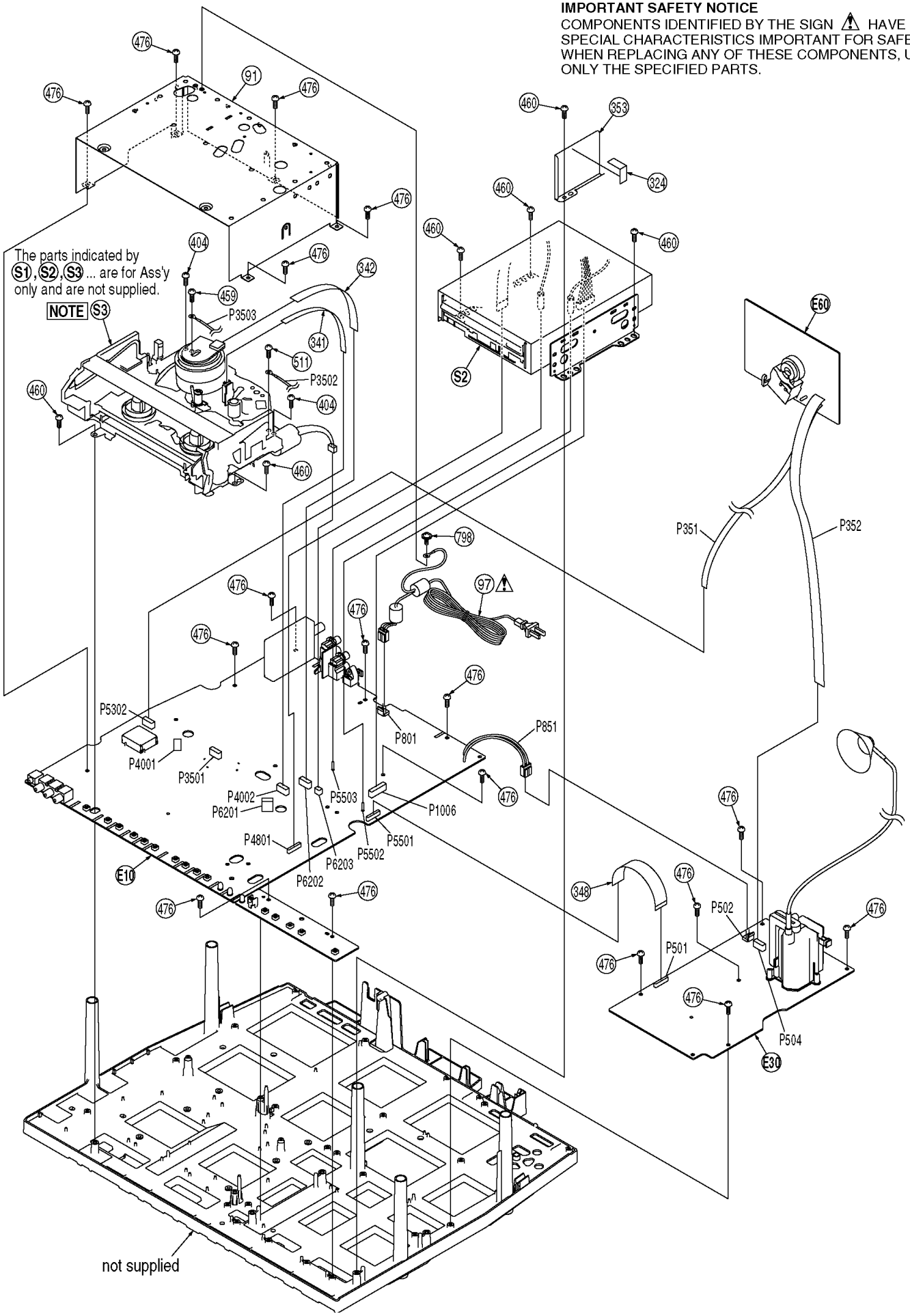
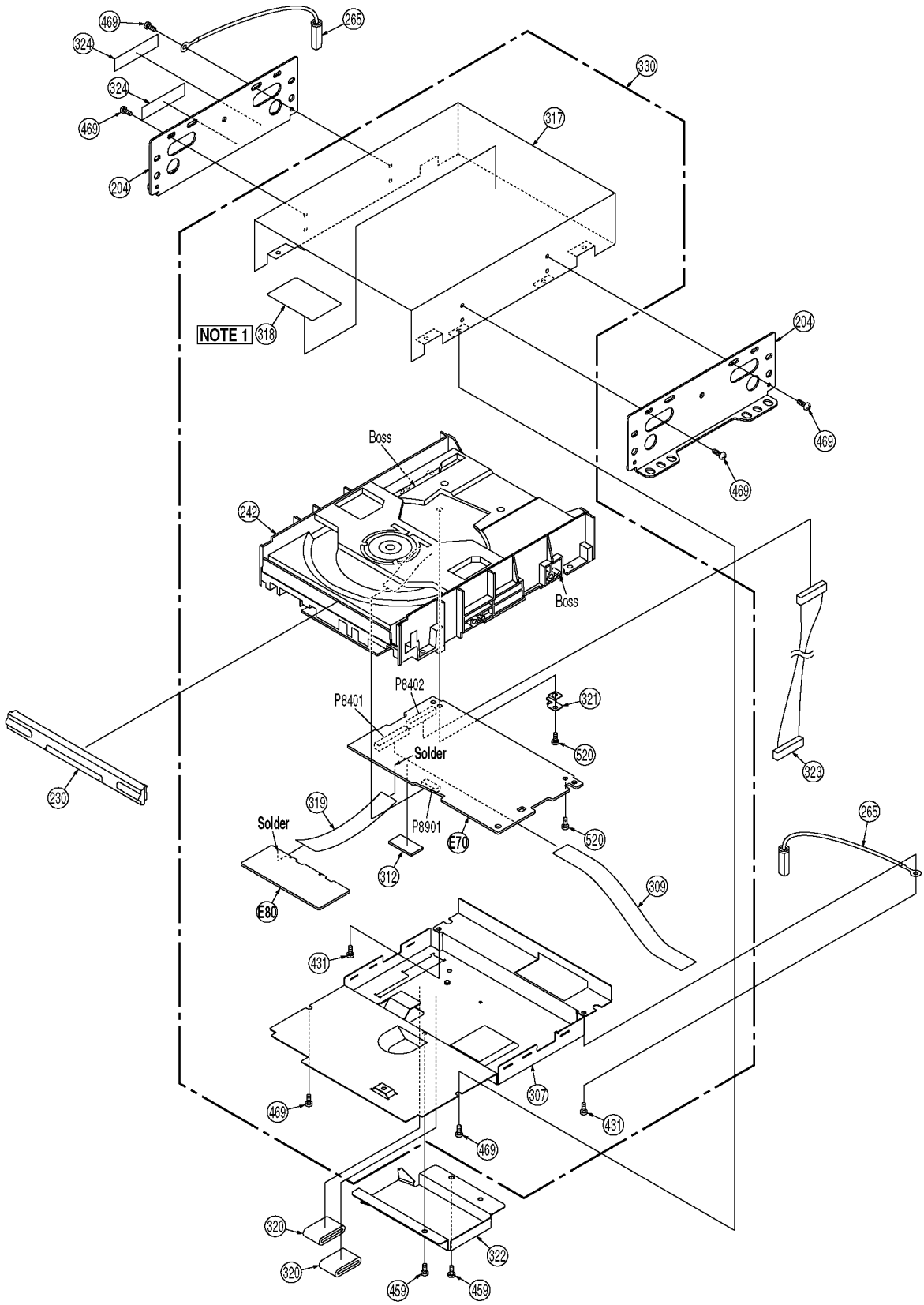


Fig. D3



NOTE 1: When replacing the DVD Frame (Ref. No. 317), be sure to place the Rating Label (Ref. No. 318) on it.

Fig. D4

6.1.1.1. Notes in chart

1. **Removal of VCR/DVD Ass´y**

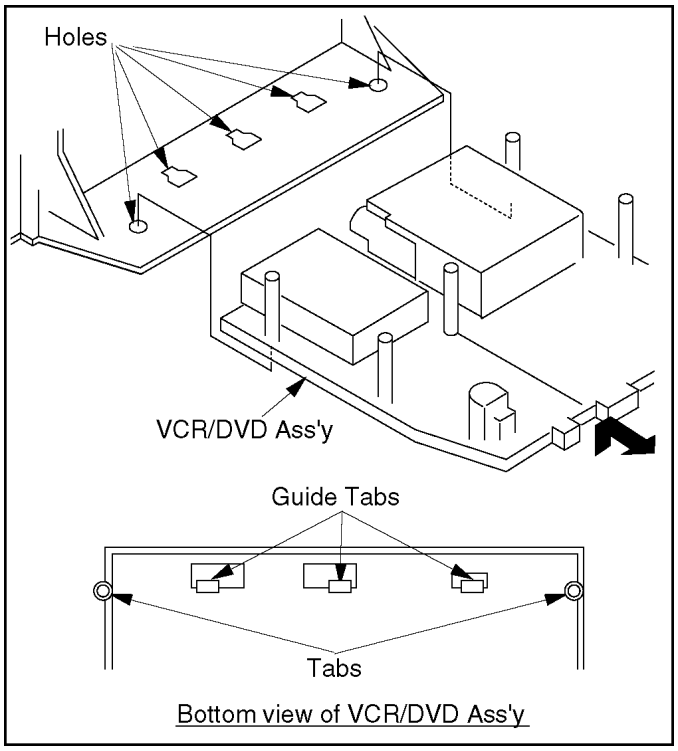


Fig. D5

Installation of VCR/DVD Ass´y

CAUTION:

Opener Lever may be damaged when VCR/DVD Ass´y is installed, with Cassette Door-Lid and Opener Lever of Cassette Up Ass´y set incorrectly.

a. When installing the VCR/DVD Ass´y, swing the Cassette Door-Lid all the way open until the Cassette Door tab clears the Opener Lever.

b. Make sure that all guide tabs are aligned properly.

Then, press the VCR/DVD Ass´y straight in.

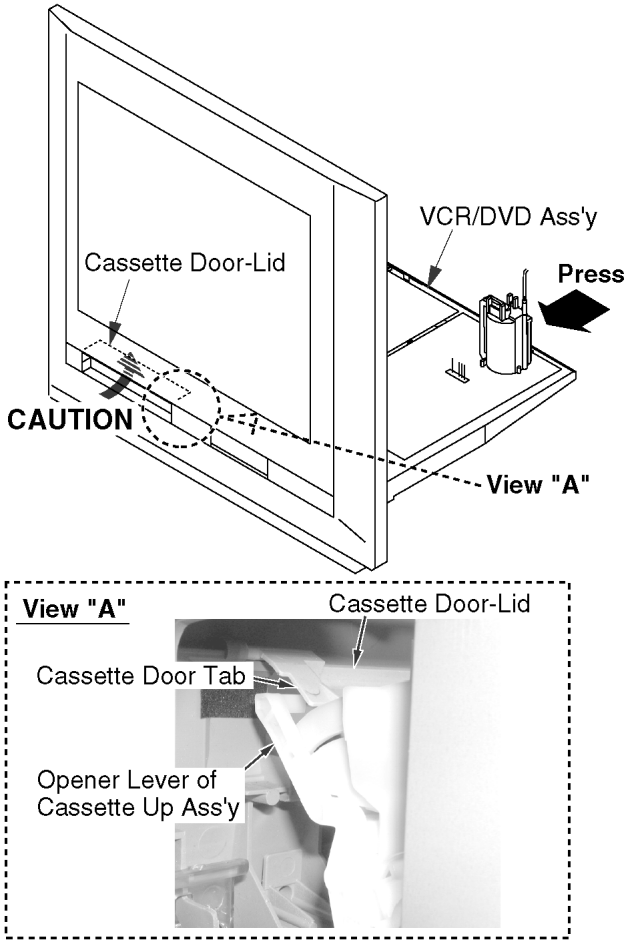


Fig. D6

2. **Removal of Color Picture Tube Unit**

   Place the Unit face down on a soft cloth before removing the Color Picture Tube Unit.

3. **Removal of DVD Sub C.B.A.**

   a. Remove solder portions "a, b, c, d, e, f, g, h, i, j" on the DVD Sub C.B.A.

   b. Remove the DVD Sub C.B.A. while releasing the Locking Tab.

Installation of DVD Main C.B.A. and DVD Sub C.B.A.

   a. Confirm that the Lever A is positioned as shown, and install the DVD Sub C.B.A. with the Locking Tab and 2 bosses.

   b. Install the DVD Main C.B.A. with the Locking Tab and the rib.

   c. Pass the leads through the slots A and B.

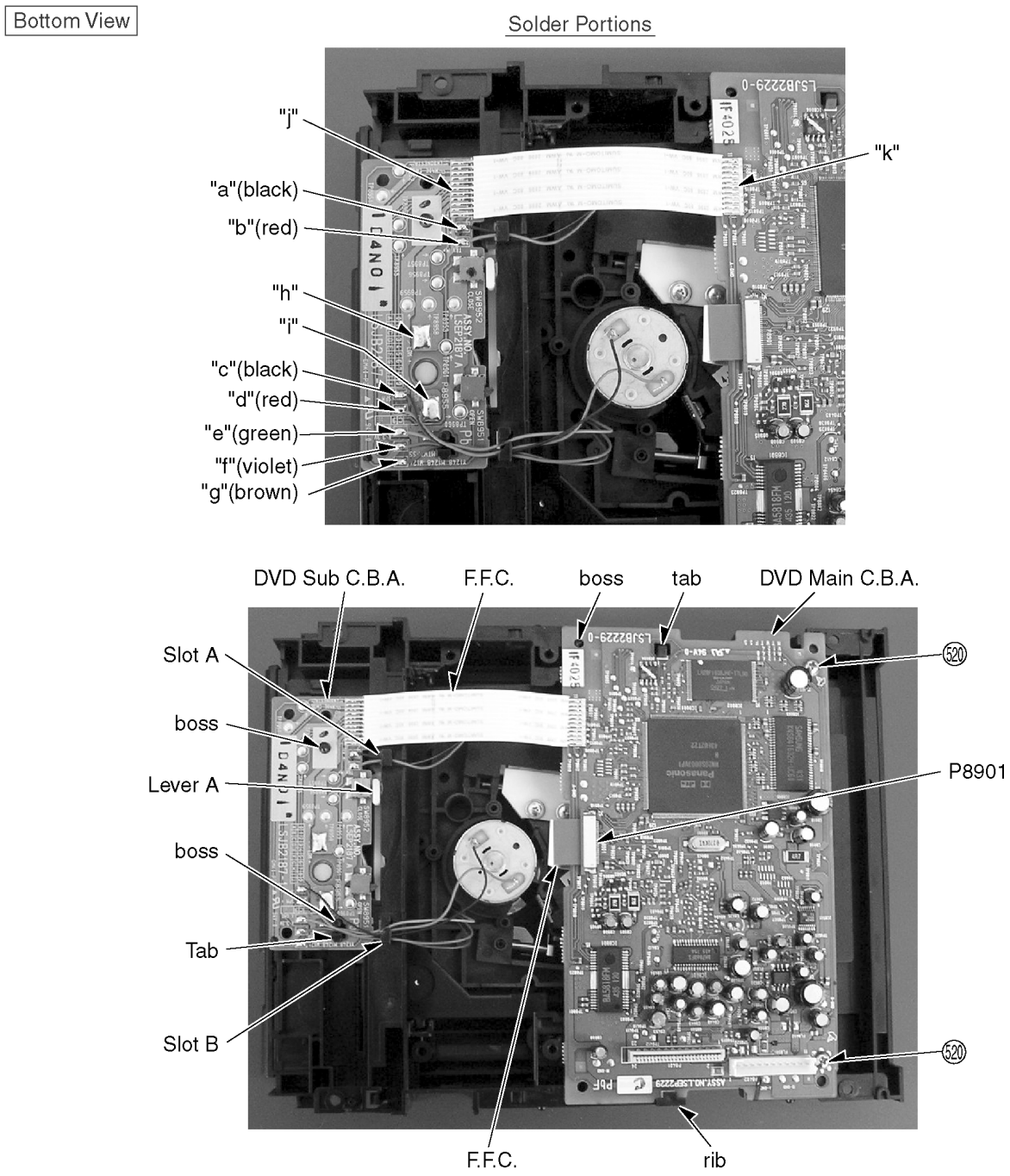
   d. Solder portions "a, b, c, d, e, f, g, h, i, j, k" on the C.B.A.

   Note:

   Solder portions "h" and “i” while pushing down the DVD Sub C.B.A. securely.

   e. Connect the F.F.C.s to Connectors P8901 on the DVD Main C.B.A.

   f. Tighten the 2 Screws (520).



4. **Installation of Mechanism Chassis and Cassette Up Ass'y onto Main C.B.A.**

   a. Make sure the Mode Select SW. on the Main C.B.A. is in EJECT position. If not, rotate the Mode Select SW. until the alignment projection is in the EJECT Position.

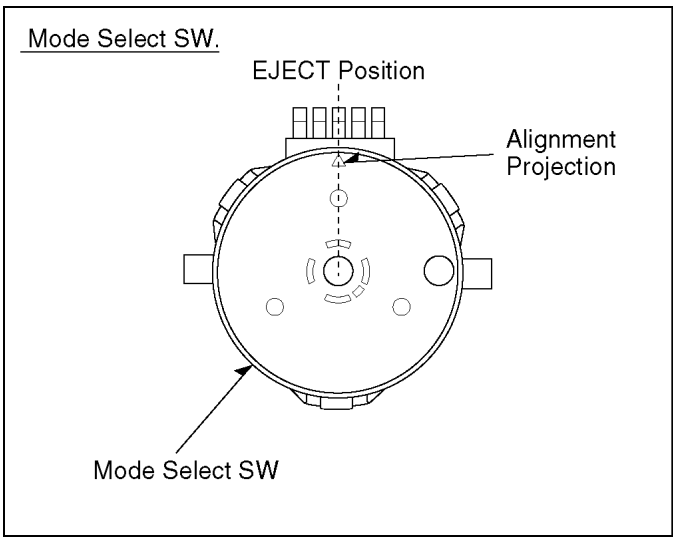


Fig. D8

b. Make sure the phase hole of the Main Cam Gear on the bottom side of the Mechanism Unit is in EJECT Position.

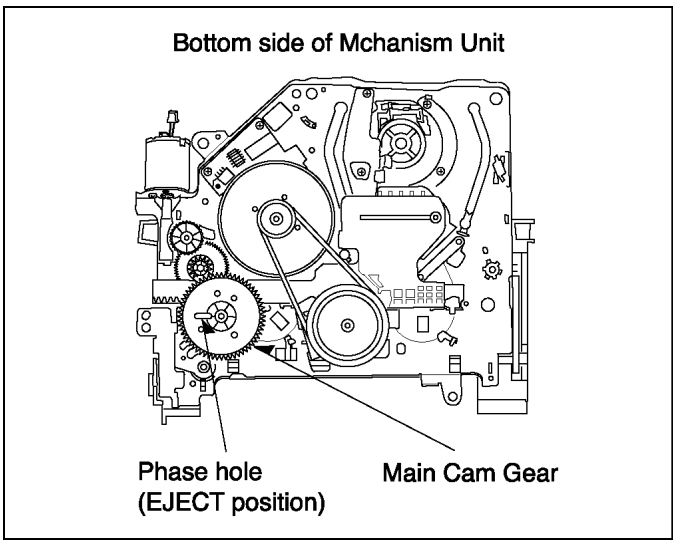


Fig. D9

c. Install the Mechanism Chassis straight onto the Main C.B.A. so that the Sensor LED clears the hole in the Mechanism Chassis and that 2 Connectors (P6201 and P4001) are aligned and seated securely.

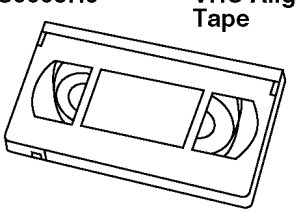
6.2. MECHANISM SECTION

Refer to the Service Manual for R4-Mechanism Chassis. (Order No. MKE0401000C1)

7 ADJUSTMENT PROCEDURES

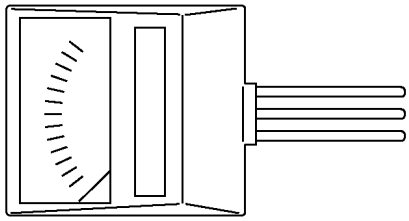
7.1. SERVICE FIXTURES AND TOOLS

VFMS0003H6 VHS Alignment Tape

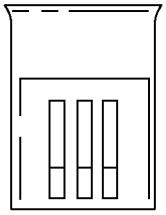


Video	Color Bar & Monoscope
Audio	6kHz(MONO)

Back Tension Meter (Made in USA., Purchase Locally)



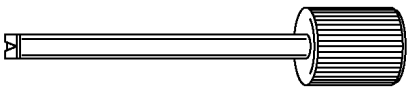
VFK27 Head Cleaning Stick



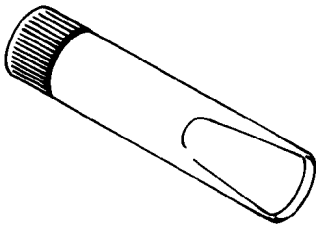
VFK0330 H-Position Adjustment Driver

VFKS0081 Grease

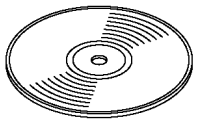
VFK0329 Post Adjustment Driver



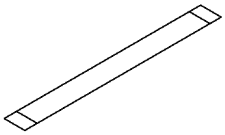
VFK1301 Silicone Grease



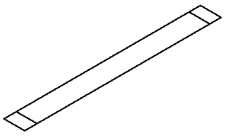
DVDT-S01 **DVDT-S15** DVD Test Disc



LSUA0047 Extension Cable 13P



LSUA0048 Extension Cable 16P



7.2. MECHANICAL ADJUSTMENT

Refer to the Service Manual for R4-Mechanism Chassis. (Order No. MKE0401000C1)

7.3. ELECTRICAL ADJUSTMENT

Note:

Following Adjustments have been preadjusted at factory and are not required.

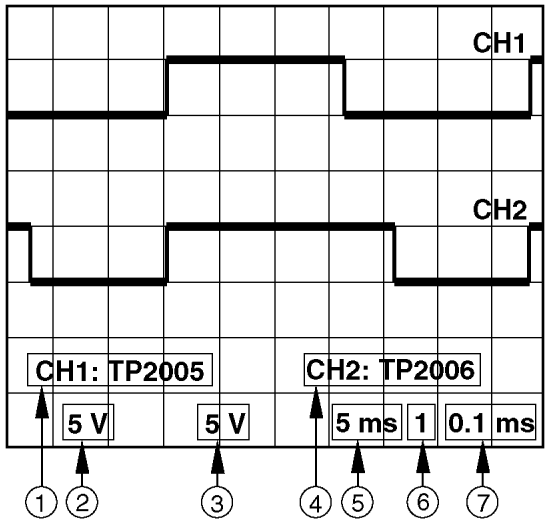
- Purity Adjustment
- Convergence Adjustment

7.3.1. TEST EQUIPMENT

To do all of these electrical adjustments, the following equipment is required.

1. Dual-Trace Oscilloscope
   Voltage Range: 0.001 V to 50 V/Div.
   Frequency Range: DC to 50 MHz
   Probes: 10:1, 1:1
2. NTSC Video Pattern Generator
3. Isolation Transformer (Variable)
4. VHS Alignment Tape (VFMS0003H6)
5. Degaussing Coil
6. White Pattern Generator

7.3.2. HOW TO READ THE ADJUSTMENT PROCEDURES



1. Connecting Point
3. Volts/DIV
5. Time/DIV
7. Time/DIV for Delay

2. Volts/DIV
4. Connecting Point
6. Trigger Channel of the Scope
   1 : CH1
   2 : CH2

Fig. E1

7.3.3. EVR (Electronic Variable Register) ADJUSTMENT WITH THE REMOTE CONTROL

This unit has electronic technology using I^2C Bus concept.

The following control functions are adjusted by using "On Screen Displays" and the remote control instead of adjusting mechanical controls (VR).

Control functions	※1 Address	Range	Default
SUB COLOR	00	C0 - FF, 00 - 3F	00
SUB TINT	01	E0 - FF, 00 - 1F	00
SUB BRIGHT	02	C0 - FF, 00 - 3F	F0
CONTRAST	03	C1 - FF, 00	00
SUB SHARPNESS	04	E0 - FF, 00 - 1F	EC
R CUT -OFF	05	00 - 7F	1E
G CUT -OFF	06	00 - FD	3C
B CUT -OFF	07	00 - FD	3C
G DRIVE	08	00 - 7F	40
B DRIVE	09	00 - 7F	40
SUB CONTRAST	0A	00 - 0F	06
H-CENTER	0B	00 - 0F	08
V SIZE	0D	00 - 7F	40
V POSITION	0E	00 - 1F	02
VV COLOR	12	C0 - FF, 00 - 3F	F9
VV TINT	13	E0 - FF, 00 - 1F	02
VV SHARPNESS	14	E0 - FF, 00 - 1F	F6
PG SHIFTER	15	00 - FD	80
US/CANADA	18	00 - 01	00/01

Bold-faced letters → Control functions which need to be adjusted.

Note:

※1 Address is not displayed on the TV screen.
Other Addresses except above are not used.

7.3.4. EVR ADJUSTMENT ITEM

The following Items need to be adjusted for EVR adjustment.

- SUB CONTRAST ADJUSTMENT
- FOCUS, SCREEN, CUT OFF, DRIVE ADJUSTMENT
- SUB COLOR/SUB TINT ADJUSTMENT
- DEFLECTION DISTORTION CORRECTION ADJUSTMENT
- WHITE BALANCE ADJUSTMENT
- SUB BRIGHTNESS ADJUSTMENT

7.3.5. HOW TO ENTER EVR ADJUSTMENT MODE

Press and hold STOP/EJECT, PLAY and VOL- buttons of VCR operation panel on the unit together over 5 seconds with no cassette inserted.

The adjustment overlay will appear to Enter EVR adjustment mode.

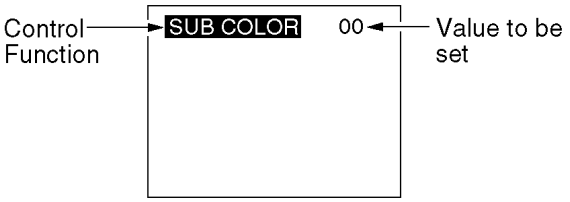


Fig. E2-1

7.3.5.1. How to adjust:

1. Press UP/DOWN ▲ ▼ key on the remote control to select control function to be adjusted.

   Important Note:

   Make a note of the original value of the controls before modifying in case the wrong control is adjusted.

2. Press RIGHT/LEFT ◀ ▶ key on the remote control so that the shaded area moves to the value.

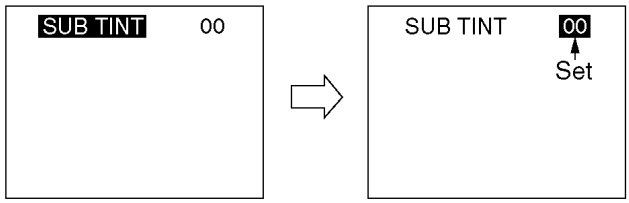


Fig. E2-2

3. Press UP/DOWN ▲ ▼ key on the remote control to adjust the value of the selected control.

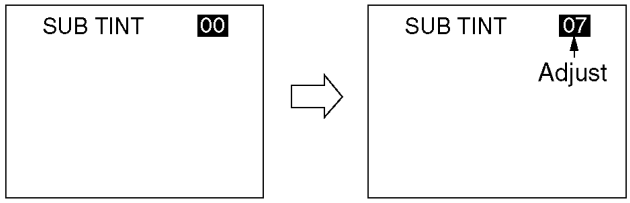


Fig. E2-3

Note:

You can select a desired channel by using the numbered keys on the remote control in EVR adjustment mode.

4. Press RIGHT/LEFT ◀ ▶ key on the remote control so that the shaded area moves to the control function.

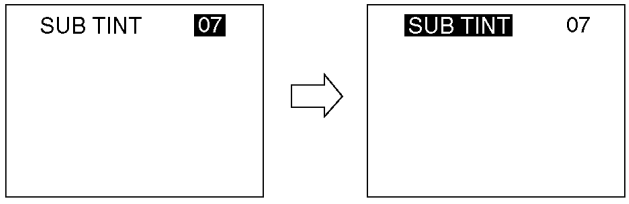


Fig. E2-4

5. Press UP/DOWN ▲ ▼ key on the remote control to select a control function for the next adjustment if necessary.

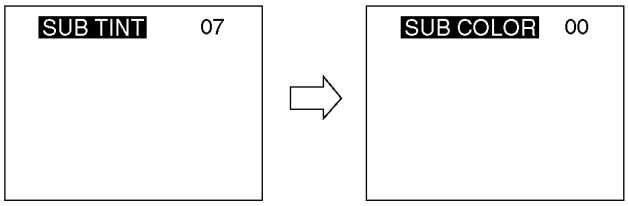


Fig. E2-5

7.3.5.2. How to release from EVR Adjustment Mode:

Press and hold STOP/EJECT, PLAY and VOL- buttons of VCR operation panel on the unit together over 5 seconds again or press the POWER button OFF to release EVR adjustment mode. The adjusted value will be written to Memory IC (IC6004).

7.3.6. HOW TO ENTER SERVICE MODE

1. Set the unit to TV Mode.
2. Enter EVR adjustment mode.
3. Press DISPLAY key on the remote control for collapse scan.

Note:

Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value for adjustments you will proceed.

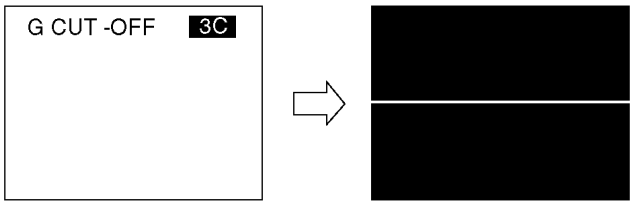


Fig. E2-6

7.3.6.1. How to release from Service Mode:

Press DISPLAY key again on the remote control.

7.3.7. SUB CONTRAST ADJUSTMENT

Purpose:	To set the optimum sub contrast level.
Symptom of Misadjustment:	The picture is too dark or too light.
Test Point :	**TP49 (CRT C.B.A.)**
Adjustment :	**SUB CONTRAST (EVR),**
Specification :	**Refer to descriptions below.**
Input :	Video Input Jack,
	Crosshatch Pattern Signal 1 V[p-p] (75 Ω terminated)
Mode :	STOP
Equipment :	Oscilloscope,
	NTSC Video Pattern Generator

1. Supply a Crosshatch Pattern Signal to the Video Input Jack.
2. Connect the Oscilloscope to TP49 on the CRT C.B.A.
   (Use TP47 for GND.)
3. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the (C0).
4. Select SUB CONTRAST in EVR adjustment mode and adjust so that the level A is (3.0 V[p-p]±0.1 V[p-p]).
5. Select SUB BRIGHT in EVR adjustment mode and reset to the original value.

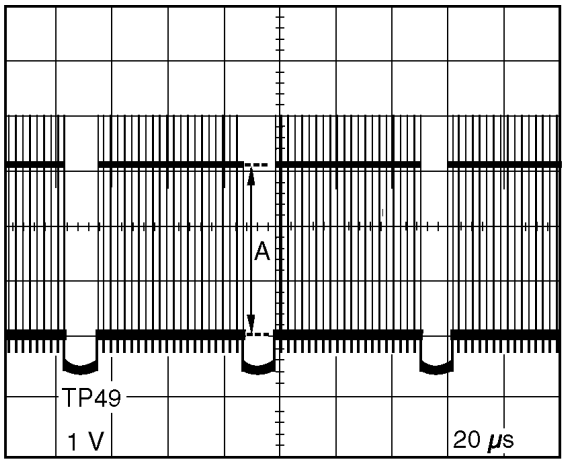


Fig. E3

7.3.8. FOCUS, SCREEN, CUT OFF, DRIVE ADJUSTMENT

Purpose:	To set the optimum Screen.
Symptom of Misadjustment:	The picture is will be an improper screen color mix.
Test Point :	**TP50 (CRT C.B.A.)**
Adjustment :	**FOCUS CONTROL**
	(Flyback Transformer),
	SCREEN CONTROL (Flyback Transformer),
	SUB BRIGHT (EVR),
	G DRIVE (EVR),
	B DRIVE (EVR),
	R CUT-OFF (EVR),
	G CUT-OFF (EVR),
	B CUT-OFF (EVR)
Specification :	**Refer to descriptions below.**
Input :	Video Input Jack,
	Crosshatch Pattern Signal,
	Monoscope Pattern Signal
Mode :	STOP
Equipment :	Oscilloscope,
	NTSC Video Pattern Generator

1. Supply a Crosshatch Pattern Signal to the Video Input Jack.
2. Adjust the FOCUS CONTROL on the Flyback Transformer so that the "a" and "b" are the sharpest.

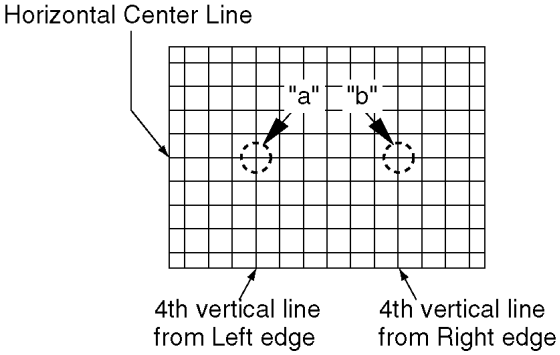


Fig. E4-1

3. Supply a Monoscope Pattern Signal to the Video Input Jack.
4. Connect the Oscilloscope to TP50 on the CRT C.B.A.
   (Use TP47 for GND.)
5. Select SUB BRIGHT and move the shaded area to the value in EVR adjustment mode.
6. Turn the SCREEN CONTROL on the Flyback Transformer fully counterclockwise.
7. Press DISPLAY key on the remote control for collapse scan. (Refer to "HOW TO ENTER SERVICE MODE.")
8. Adjust SUB BRIGHT in EVR adjustment mode so that the level A is (170 VDC±5 VDC).

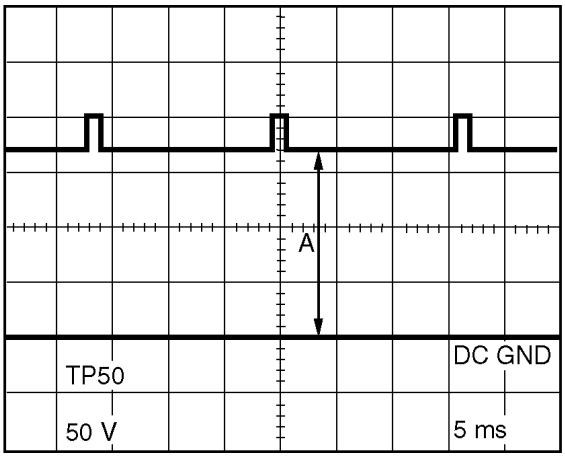


Fig. E4-2

9. Turn the SCREEN CONTROL on the Flyback Transformer clockwise carefully and stop at the point where any color is first observed.
10. In EVR adjustment mode, select the two colors not observed in step 8 from the following control functions (R CUT-OFF, G CUT-OFF, B CUT-OFF) and adjust so that the horizontal line becomes white.

    For example, if the horizontal line appeared red in step 8, select and adjust the B CUT-OFF and G CUT-OFF. (See NOTE)
11. Press DISPLAY key on the remote control again to return for full frame scan.
12. Select SUB BRIGHT in EVR adjustment mode and adjust so that the picture has adequate brightness.
13. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the entire screen is white.

Note:

Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

7.3.9. SUB COLOR/SUB TINT ADJUSTMENT

Purpose :	To set the standard color phase.
Symptom of Misadjustment :	Color phase will be shifted.
Test Point :	**TP49 (CRT C.B.A.)**
Adjustment :	**SUB COLOR (EVR),**
	SUB TINT (EVR),
Specification :	**Refer to descriptions below.**
Input :	Video Input Jack,
	Rainbow Color Bar
Mode :	STOP
Equipment :	Oscilloscope,
	NTSC Video Pattern Generator

1. Supply the Rainbow Color Bar signal to Video Input Jack.
2. Connect the Oscilloscope to TP49 on the CRT C.B.A.
3. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of original value, adjust to the (C0).
4. Select SUB TINT in EVR adjustment mode and adjust so that level A and B should be equal in amplitude.

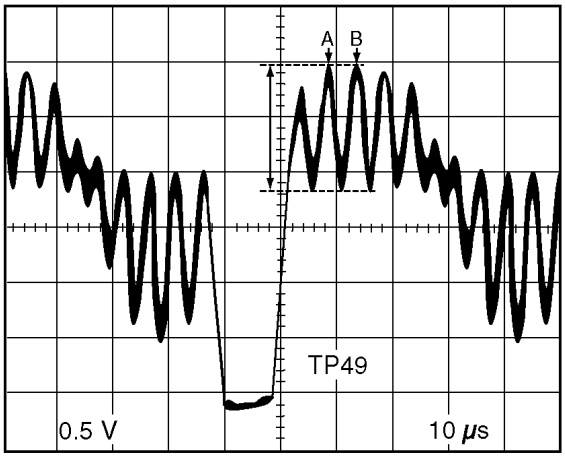


Fig. E5-1

5. Select SUB COLOR in EVR adjustment mode and adjust which higher level that level C is 1.40 V[p-p]±0.15 V[p-p].

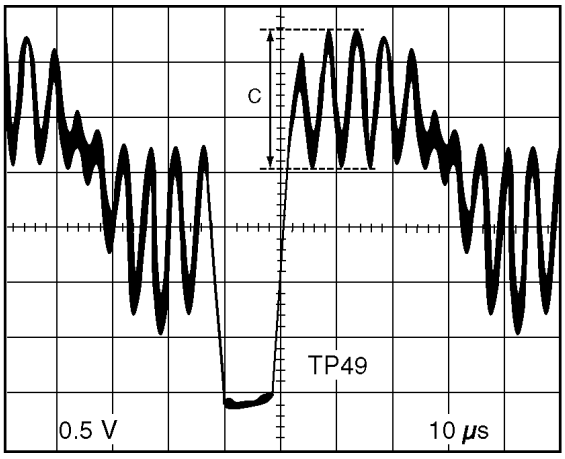


Fig. E5-2

6. Select SUB TINT in EVR adjustment mode and increase level B 1 clicks above the same level.

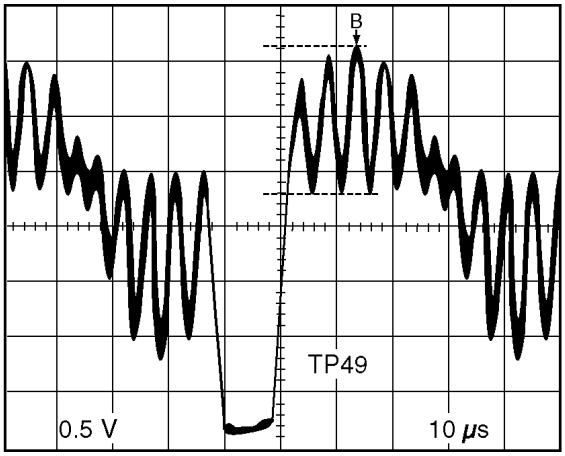


Fig. E5-3

7. Select SUB BRIGHT in EVR adjustment mode and reset to the original value.

7.3.10. DEFLECTION DISTORTION CORRECTION ADJUSTMENT

Purpose :	To set the optimum picture.
Symptom of Misadjustment :	The picture is distortion.
Test Point :	**----------**
Adjustment :	**V POSITION (EVR),**
	V SIZE (EVR),
	H-CENTER (EVR),
Specification :	**Refer to descriptions below.**
Input :	Video Input Jack,
	Crosshatch Pattern Signal,
	Monoscope Pattern Signal
Mode :	STOP
Equipment :	NTSC Video Pattern Generator

1. Supply a Crosshatch Pattern Signal to the Video Input Jack.
2. Confirm that the Horizontal Center Line is within the limits of A.

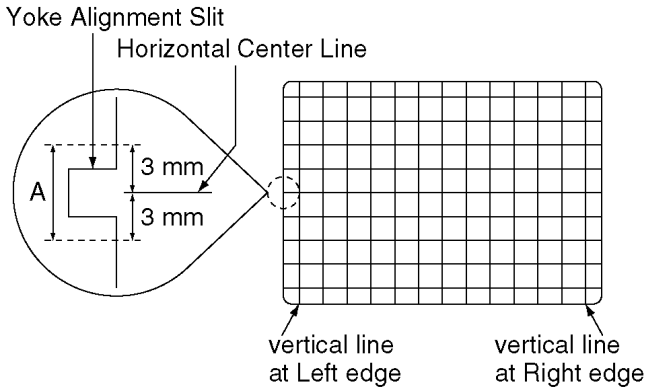


Fig. E6-1

3. Supply a Monoscope Pattern Signal to the Video Input Jack.
4. Select V POSITION in EVR adjustment mode and adjust Horizontal Center Line is within the limits of A.

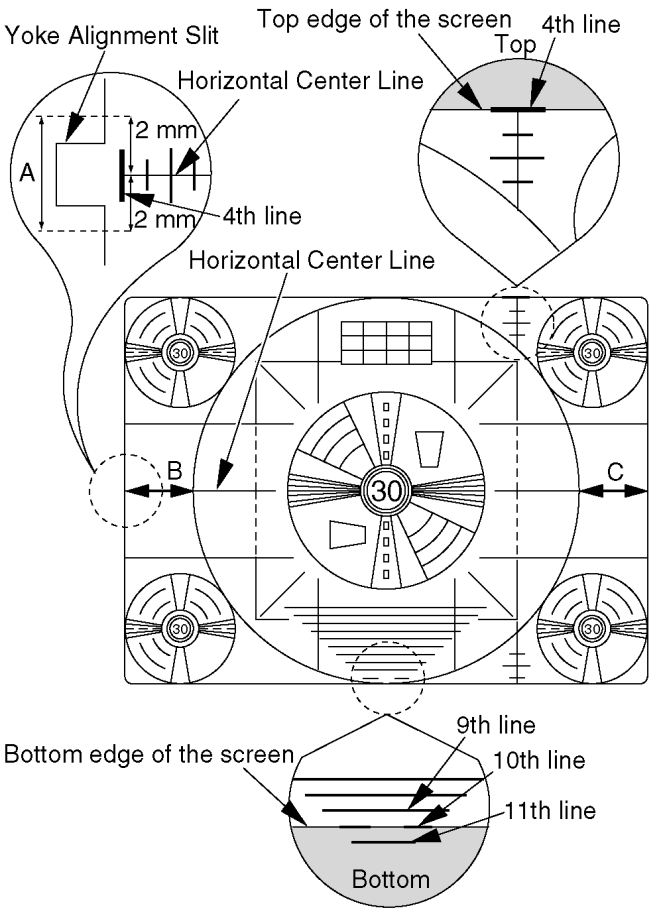


Fig. E6-2

5. Select V SIZE in EVR adjustment mode and adjust so that the top 4th line is just in view, and that the Bottom edge is between the 9th line and the 11th line.
6. Select H-CENTER in EVR adjustment menu and adjust so that B is approximately equal to width C.
7. Supply a Crosshatch Pattern Signal to the Video Input Jack. Then, confirm that the picture is no distortion.

7.3.11. WHITE BALANCE ADJUSTMENT

Purpose:	To set the standard white level for each color temperature.
Symptom of Misadjustment :	White becomes bluish or reddish.
Test Point :	**TP50 (CRT C.B.A)**
Adjustment :	**FOCUS CONTROL (Flyback Transformer), SCREEN CONTROL (Flyback Transformer), SUB BRIGHT (EVR), G DRIVE (EVR), B DRIVE (EVR), R CUT-OFF (EVR), G CUT-OFF (EVR), B CUT-OFF (EVR)**
Specification :	**Refer to descriptions below.**
Input :	Video Input Jack, Monoscope Pattern Signal, White Pattern Signal
Mode :	STOP
Equipment :	NTSC Video Pattern Generator, White Pattern Generator, Oscilloscope

1. Supply a Monoscope Pattern Signal to the Video Input Jack.
2. Connect the Oscilloscope to TP50 on the CRT C.B.A. (Use TP47 for GND.)
3. Select SUB BRIGHT and move the shaded area to the value in EVR adjustment mode.
4. Adjust the FOCUS CONTROL on the Flyback Transformer so that the "a" and "b" are the sharpest.

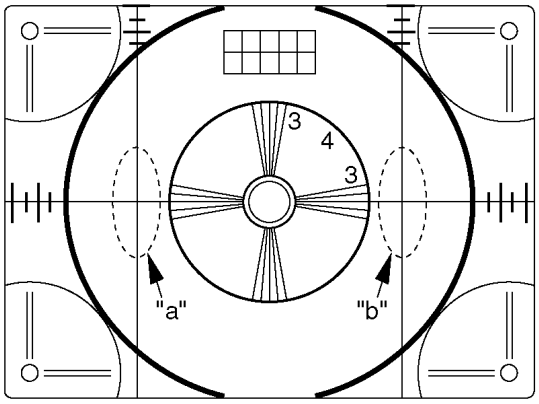


Fig. E7-1

5. Turn the SCREEN CONTROL on Flyback Transformer fully counterclockwise.
6. Press DISPLAY key on the remote control for collapse scan. (Refer to "HOW TO ENTER SERVICE MODE.")
7. Adjust SUB BRIGHT in EVR adjustment mode so that the

level A is 175 VDC±5 VDC.

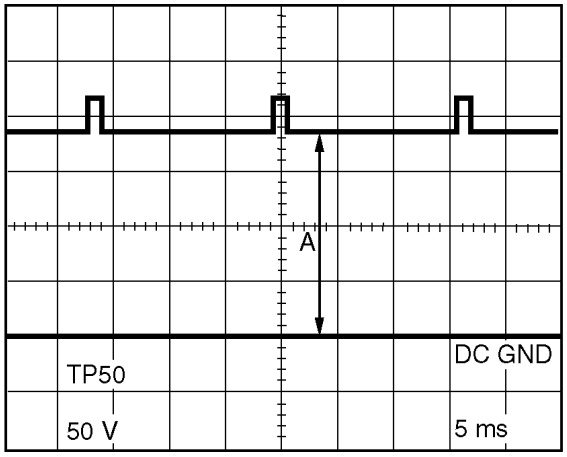


Fig. E7-2

8. Turn the SCREEN CONTROL on the Flyback Transformer clockwise carefully and stop at the point where red or blue is first observed.
9. In EVR adjustment mode, select the two colors not observed in step 8 from the following control functions (R CUT-OFF, G CUT-OFF, B CUT-OFF) and adjust so that the horizontal line becomes white.

   For example, if the horizontal line appeared red in step 8, select and adjust the B CUT-OFF and G CUT-OFF (See Note).
10. Supply a White Pattern Signal to the Video Input Jack.
11. Press DISPLAY key on the remote control again to return for full frame scan.
12. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the entire screen is white.
13. Confirm that the screen is tracking the White Pattern properly. If NG, repeat the above steps 8, 9 and 12 until the screen is properly tracking the White Pattern.
14. Select SUB BRIGHT in EVR adjustment mode and adjust correctly.

Note:

Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

7.3.12. SUB BRIGHTNESS ADJUSTMENT

Note:

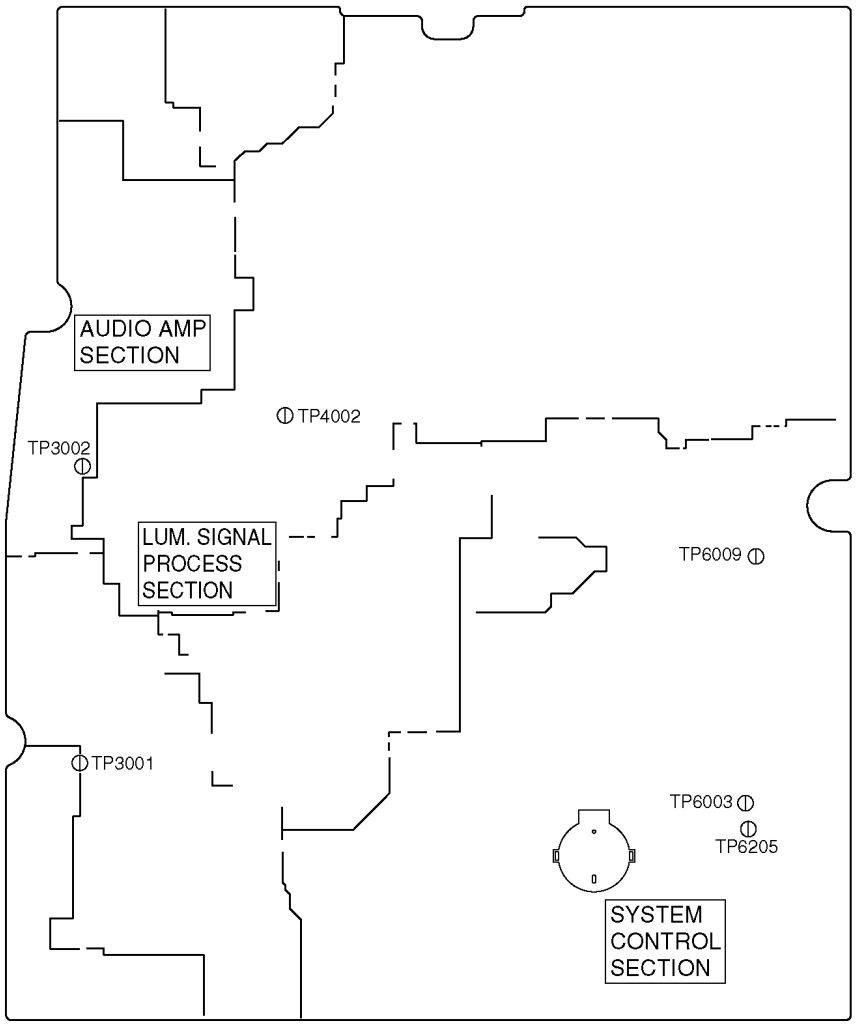
Perform this adjustment in a darkened room.

Purpose :	To set the optimum brightness level.
Symptom of Misadjustment :	The picture is too white or too black.
Test Point :	**----------**
Adjustment :	**SUB BRIGHT (EVR),**
Specification :	**Refer to descriptions below.**
Input :	----------
Mode :	STOP

1. Do not input any signal to the unit.
2. Set INPUT SELECT item to LINE in SET UP TV menu to display black screen.
3. Select SUB BRIGHT in EVR adjustment mode, and adjust so that the black screen starts to turn gray (lighting only).

7.4. TEST POINTS AND CONTROL LOCATION

Main C.B.A.



(Component Side)

FUNCTION OF IMPORTANT TEST POINTS	
TP3001	Video Signal
TP3002	REC/PB Video envelope signal
TP4002	Normal Audio signal
TP6003	Defeat Auto tracking function (connect to +5V(TP6009))
TP6009	+5V
TP6205	Head SW.

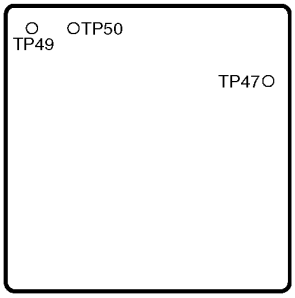
Test Point Information

● Test Point with a Test Pin.

⦶ Test Point with a jumper wire across a hole in the P.C.B.

○ Test Point with no Test Pin.

CRT C.B.A.



(Foil Side)

8 SCHEMATIC DIAGRAMS

8.1. SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

1. **Important safety notice**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.

2. Do not use the part numbers shown on these drawings for ordering.
   The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information
   ⓘ :Test point with a jumper wire across a hole in P.C.B.
   ▭→ :Test point with a component lead on the foil side.
   ▨ :Test point with no test pin.
   ● :Test point with a test pin.

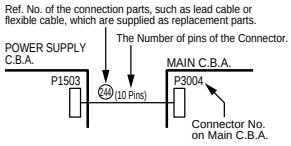
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltages of Zener Diodes are indicated as such on Schematic Diagrams.

   Example:
   (6.2V).....Zener Voltage

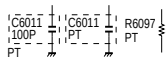
2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to (its counterpart). Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between two C.B.A.s are shown below.


Ref. No. of the connection parts, such as lead cable or flexible cable, which are supplied as replacement parts.
The Number of pins of the Connector.
POWER SUPPLY C.B.A.
MAIN C.B.A.
P1503
P3004
24 (10 Pins)
Connector No. on Main C.B.A.

3. Parts marked "PT" are not used in any models included in this service model.

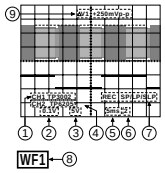
   Example:



4. Jumper wires are used for WA10, WA5 etc and these are not supplied as replacement parts.

Signal Waveform Note

How to read Signal Waveform



① Connecting Point
② Volts/Div
③ Volts/Div
④ Connecting Point
⑤ Time/Div
⑥ Trigger Channel of the scope (1:CH1,2:CH2)
⑦ Operation Mode of VCR
⑧ Waveform Point on Schematic
⑨ V1:Peak to Peak

Voltage Chart Note

Voltage Measurement
a. Color bar signal in SP mode.
b. ---:Unmeasurable or not necessary to measure.

Circuit Board Layout Note

Circuit Board Layouts show components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layouts include components which are not used.

8.2. MAIN SCHEMATIC DIAGRAMS

MAIN I SCHEMATIC DIAGRAM

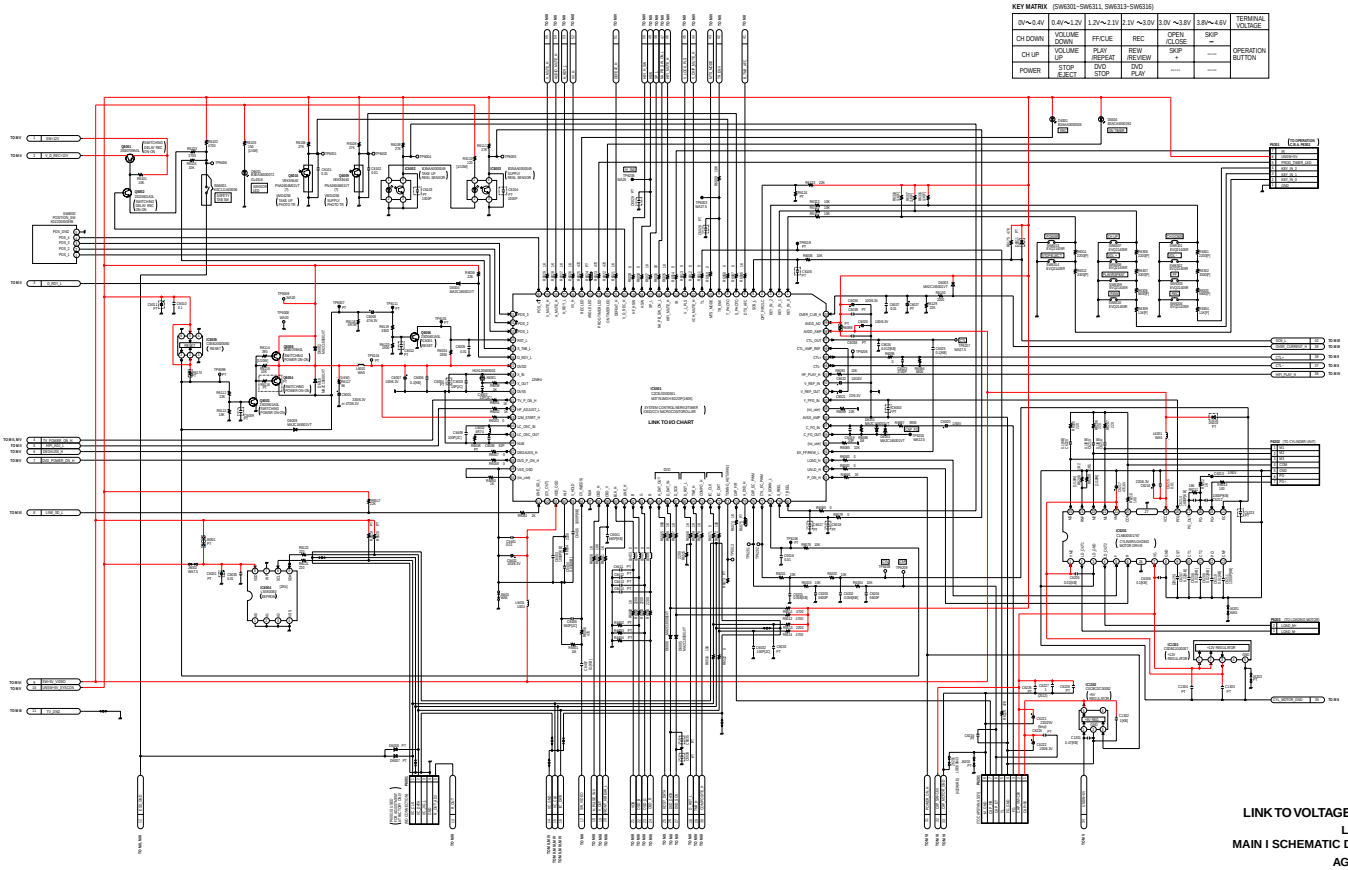
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

KEY MATRIX (SW6301~SW6311, SW6313~SW6316)

	0V~0.4V	0.4V~1.2V	1.2V~2.1V	2.1V ~3.0V	3.0V ~3.8V	3.8V~4.6V	TERMINAL VOLTAGE
CH DOWN	VOLUME DOWN	FF/CUE	REC	OPEN CLOSE	SKIP ⏭		OPERATION BUTTON
CH UP	VOLUME UP	PLAY /REPEAT	REW /REVIEW	SKIP ⏮	------		
POWER	STOP /EJECT	DVD STOP	DVD PLAY	------	------		



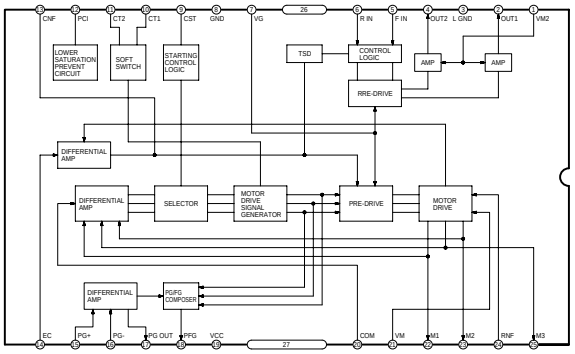
LINK TO VOLTAGE CHART
LSJB2217
MAIN I SCHEMATIC DIAGRAM
AG-520VDH

I/O CHART OF IC6001

Pin No.	I/O	Signal Name	Description
1	I	KEY_0	KEY DATA 0
2	I	KEY_1	KEY DATA 1
3	I	KEY_2	KEY DATA 2
4	-	OPT_F/R/2LC	NOT USED
5	I	SOS_L	ABNORMAL VOLTAGE DETECTION(L)
6	I	DTS_AFC	TUNER AFC
7	I	S_PHOTO	SUPPLY PHOTO TR ON(L)
8	I	T_PHOTO	TAKEUP PHOTO TR ON(L)
9	I	TR_ENV	ENV VOLTAGE
10	I	MTS_MODE	MTS MODE
11	O	TL	CAPSTAN TORQUE COMMAND
12	O	VCH_MUTE_H	V-CHIP MUTE(H)
13	O	V_L_PLS	V-LOCK PULSE
14	I	IR	IR-DATA
15	O	Hi-Fi_MUTE_H	Hi-Fi AUDIO MUTE(H)
16	O	NA_PB_SW_ON_L	NORMAL AUDIO PB(L)
17	O	SP_L	TAPE SPEED
18	O	HSW	HEAD SW PULSE
19	O	HF_HSW	Hi-Fi HEAD SW
20	O	V_D_REC_H	VIDEO DELAY REC(H)
21	O	DEFEAT_H	AUDIO DEFEAT(H)
22	O	ON_TIMER_LED	ON TIMER LED ON(L)
23	O	PROG TIMER LED	PROGRAM TIMER LED ON(L)
24	O	ANGLE LED	NOT USED
25	O	REC LED	REC LED ON(L)
26	O	VV_H	VV(H)
27	O	H_RDY_L	HOST READY(L)
28	O	A_MUTE_H	AUDIO MUTE(H)
29	O	V_MUTE_H	VIDEO MUTE(H)
30	I	POS_4	MODE SW POSITION D
31	I	POS_3	MODE SW POSITION C
32	I	POS_2	MODE SW POSITION B
33	I	POS_1	MODE SW POSITION A
34	I	RST_L	RESET(L)
35	I	S_TAB_L	SAFETY TAB ON(L)
36	I	D_RDY_L	DVD READY(L)
37	I	DVDD	VDD(+5V)
38	I	X_IN	12MHz OSCILLATOR
39	O	X_OUT	12MHz OSCILLATOR
40	-	DVSS	GROUND
41	O	TV_P_ON_H	TV POWER ON(H)
42	O	HF_ADJUST_L	HF ADJUST(L)
43	I	12M_START_H	12MHz CLOCK START(H)
44	I	LC_OSC_IN	LC OSCILLATOR
45	O	LC_OSC_OUT	LC OSCILLATOR
46	-	NUB	NOT USED
47	O	DEGAUSS_H	DEGAUSSING ON(H)
48	O	DVD_P_ON_H	DVD POWER ON(H)
49	-	VSS_OSD	GROUND
50	-	(no_use)	NOT USED

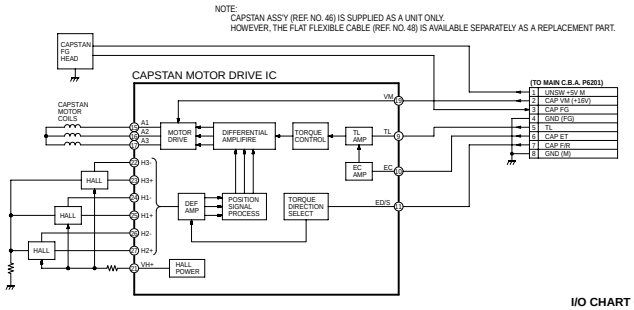
Pin No.	I/O	Signal Name	Description
51	I	LINE_SD_L	TV SIGNAL(L)
52	-	(CV_OUT)	NOT USED
53	I	VDD_OSD	VDD (+5V)
54	-	HLF	NOT USED
55	-	V_HOLD	NOT USED
56	I	CV_IN(EDS)	COMPOSITE VIDEO
57	-	NUA	NOT USED
58	I	OSD_H	OSD H-SYNC
59	I	OSD_V	OSD V-SYNC
60	O	BLK_H	BLANKING PULSE
61	O	LINE_H	LINE1(L)/LINE2(H)
62	O	B	OSD-B
63	O	G	OSD-G
64	O	R	OSD-R
65	O	H_DAT_OUT	DVD SERIAL DATA 0
66	I	D_DAT_IN	DVD SERIAL DATA 1
67	I	D_SCK	DVD SERIAL CLOCK
68	O	D_RST_L	DVD RESET(L)
69	O	TNR_H	TUNER(H)/LINE(L)
70	O	COMPO_H	COMPOSITE(H)
71	O	IIC_CLK	I2C SERIAL CLOCK
72	I/O	IIC_DAT	I2C SERIAL DATA
73	-	TUNING_H(750KHz)	NOT USED
74	O	CAP_F/R	CAPSTAN MOTOR REVERSE(H)/FORWARD(L)
75	-	A_DVD_H	NOT USED
76	O	CAP_EC_PWM	CAPSTAN ERROR
77	O	CYL_EC_PWM	CYLINDER ERROR
78	I	P_DOWN_L	POWER DOWN(L)
79	I	S_REEL	SUPLLY REEL PULSE
80	I	T_REEL	TAKEUP REEL PULSE
81	O	P_ON_H	POWER ON(H)
82	O	UNLD_H	LOADING MOTOR REVERSE(H)
83	O	LOAD_H	LOADING MOTOR FORWARD(H)
84	O	EX_F/-REW_L	FF/REW(L)
85	-	(no_use)	NOT USED
86	O	C_FG_OUT	CAPSTAN FG
87	I	C_FG_IN	CAPSTAN FG
88	-	AVSS_AMP	GROUND
89	-	(no_use)	NOT USED
90	I	Y_PFG_IN	CYLINDER PG/FG
91	O	V_REF_OUT	V-REF
92	I	V_REF_IN	V-REF
93	I	HF_PLAY_H	Hi-Fi AUDIO PB(H)
94	I/O	CTL-	CONTROL PULSE(-)
95	I/O	CTL+	CONTROL PULSE(+)
96	-	CTL_AMP_REF	V-REF
97	O	CTL_OUT	PB CONTROL PULSE
98	I	AVDD_AMP	VDD (+5V)
99	I	AVDD_AD	VDD (+5V)
100	I	OVER_CUR_H	OVER CURRENT DETECT(H)

IC6201 CYLINDER/LOADING MOTOR DRIVE IC- DETAIL BLOCK DIAGRAM



CAPSTAN ASS'Y

NOTE:
CAPSTAN ASS'Y (REF. NO. 46) IS SUPPLIED AS A UNIT ONLY.
HOWEVER, THE FLAT FLEXIBLE CABLE (REF. NO. 48) IS AVAILABLE SEPARATELY AS A REPLACEMENT PART.



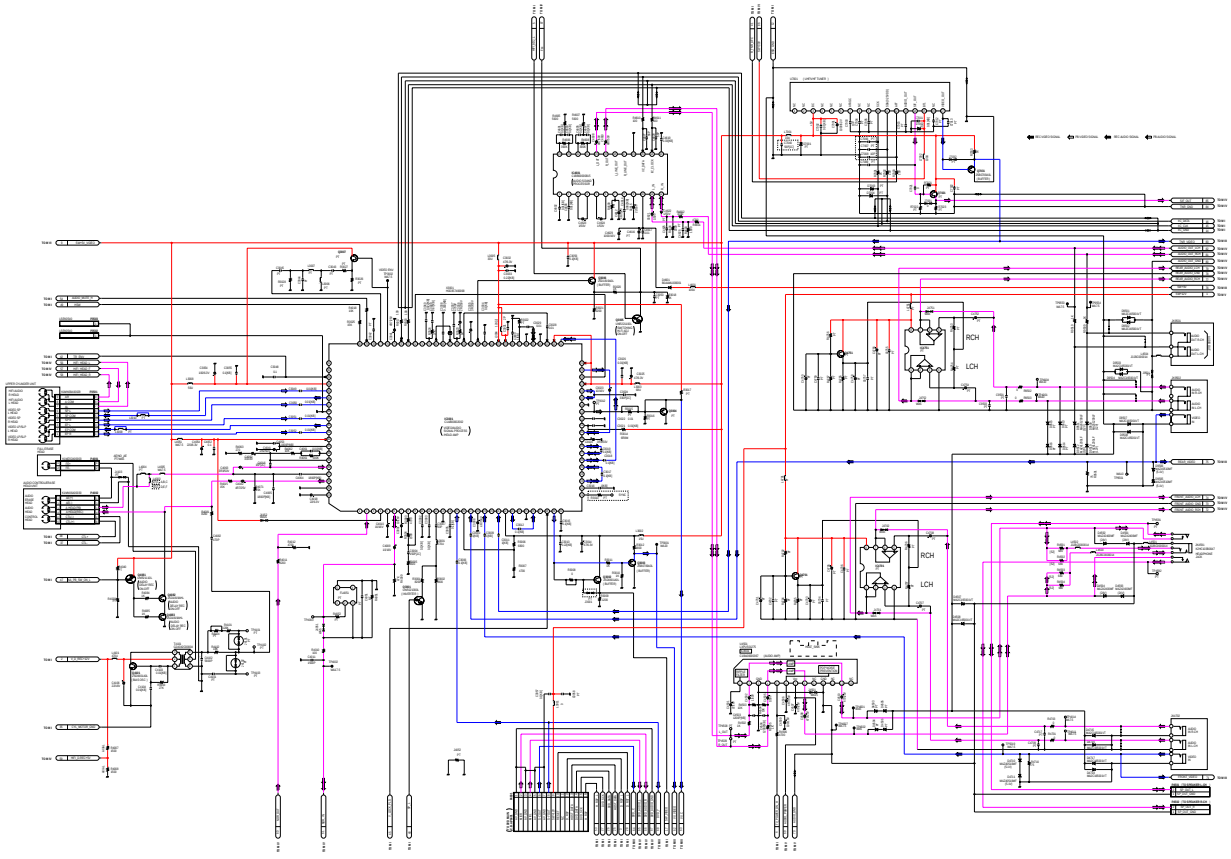
I/O CHART OF IC6001
/IC6201 DETAILBLOCK DIAGRAM
CAPSTAN ASS'Y
AG-520VDH

MAIN II SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

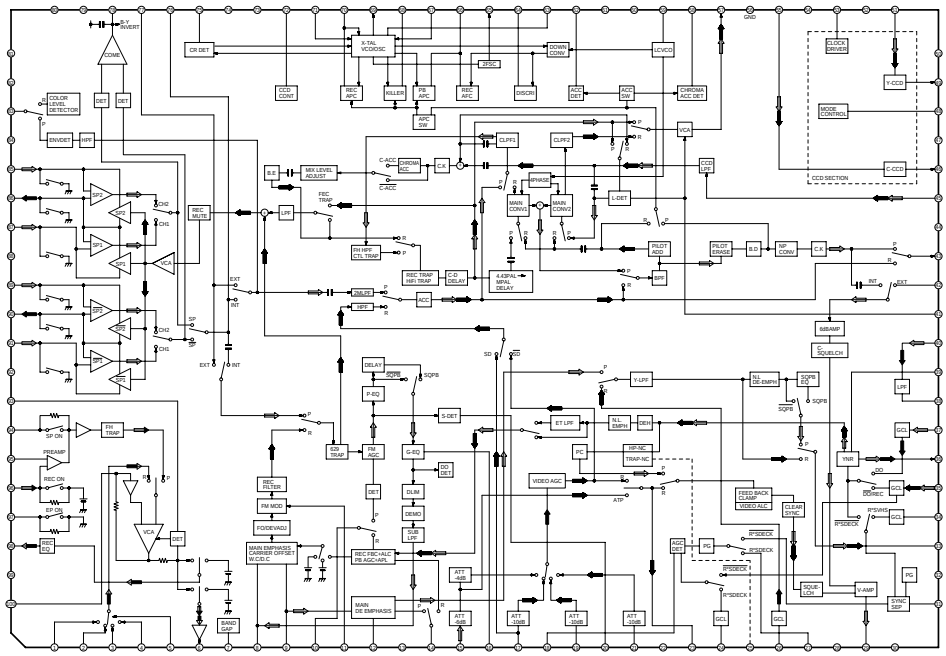


LINK TO VOLTAGE CHART

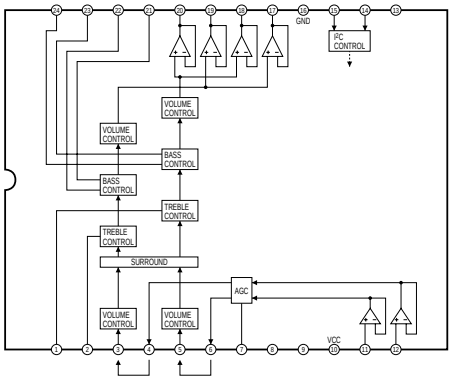
LSJB2217
MAIN II SCHEMATIC DIAGRAM
AG-520VDH

IC3001 VIDEO/AUDIO SIGNAL PROCESS / HEAD AMP IC- DETAIL BLOCK DIAGRAM

REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL



IC4601 TONE CONTROL IC - DETAIL BLOCK DIAGRAM



IC3001 DETAIL BLOCK DIAGRAM
IC4601 DETAIL BLOCK DIAGRAM
AG-520VDH

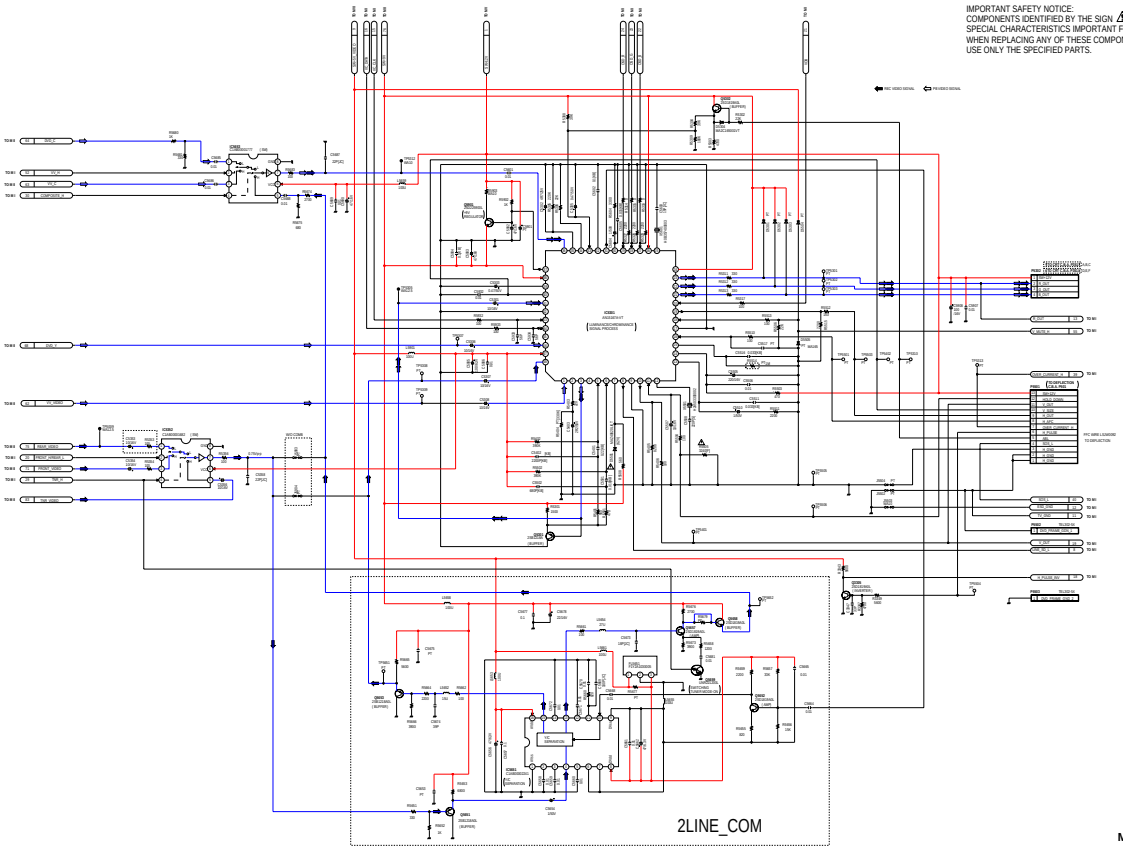
MAIN III SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

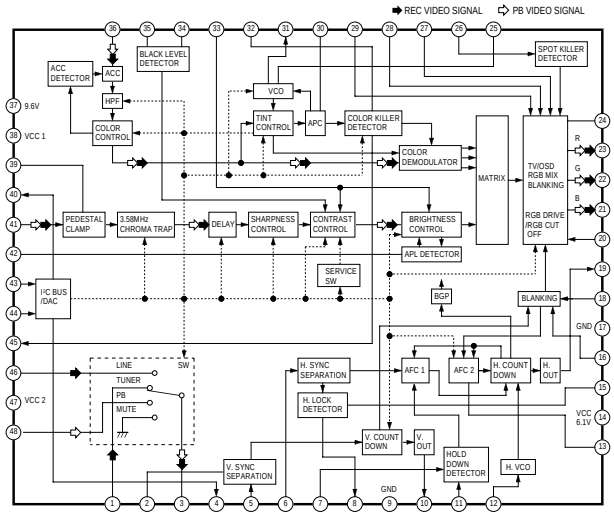
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



LINK TO VOLTAGE CHART
LSJB2217
MAIN III SCHEMATIC DIAGRAM
AG-520VDH

IC5301 LUMINANCE/CHROMINANCE PROCESS IC- DETAIL BLOCK DIAGRAM



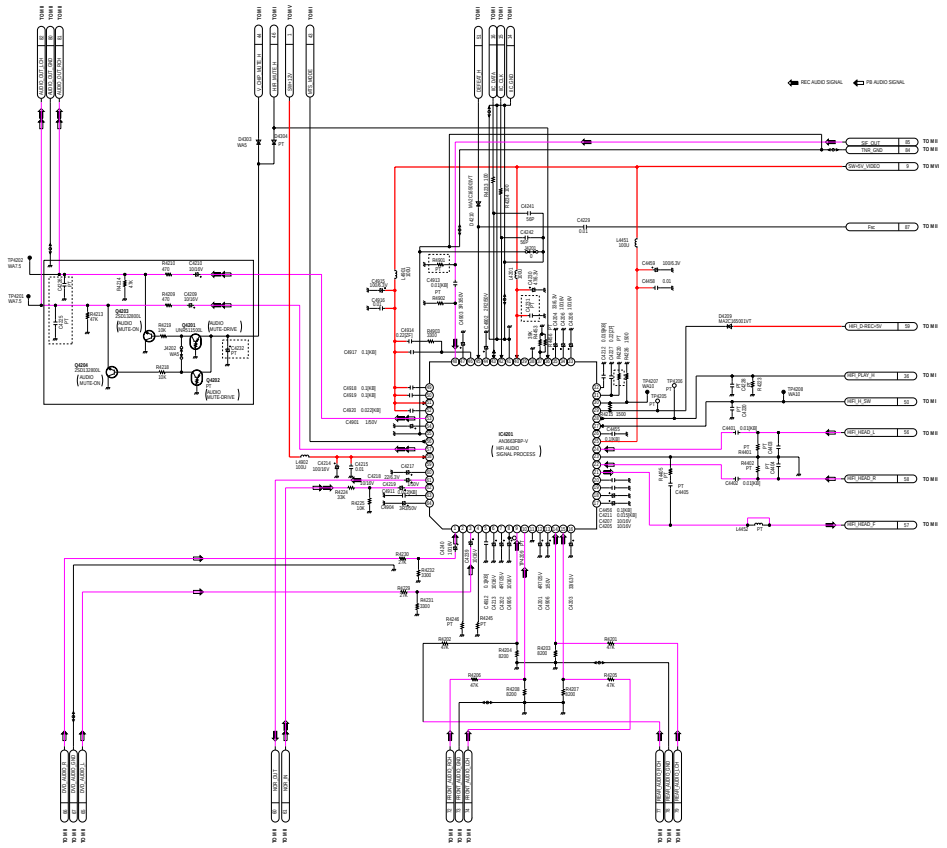
IC5301 DETAIL BLOCK DIAGRAM
AG-520VDH

MAIN IV SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

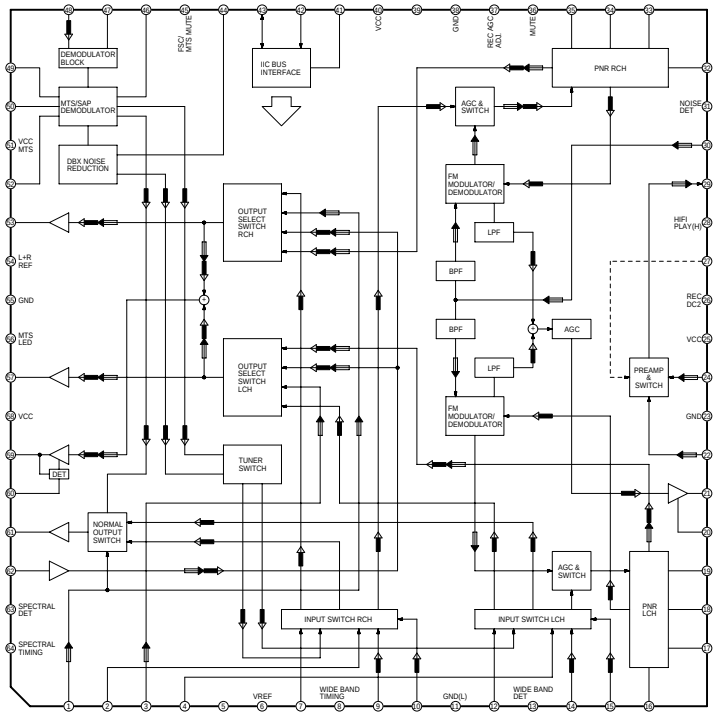
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



LINK TO VOLTAGE CHART
LSJB2217
MAIN IV SCHEMATIC DIAGRAM
AG-520VDH

IC4201 Hi-Fi AUDIO SIGNAL PROCESS IC- DETAIL BLOCK DIAGRAM

REC AUDIO SIGNAL PB AUDIO SIGNAL



IC4201 DETAIL BLOCK DIAGRAM
AG-520VDH

MAIN V SCHEMATIC DIAGRAM

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 6.3A 125V/250V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME TYPE 6.3A 125V/250V

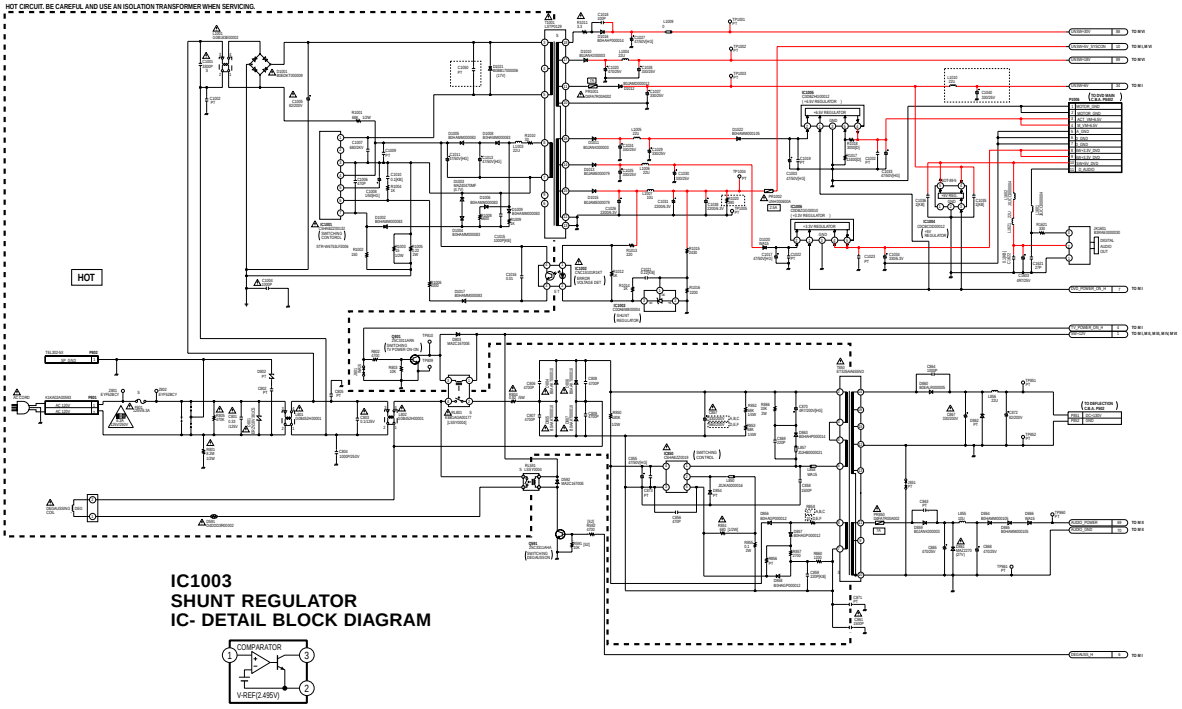
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

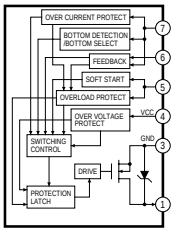
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

HOT CIRCUIT. BE CAREFUL, AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.

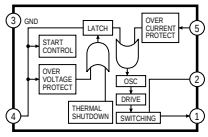


IC1003
SHUNT REGULATOR
IC- DETAIL BLOCK DIAGRAM

IC1001
SWITCHING CONTROL
IC- DETAIL
BLOCK DIAGRAM



IC850
SWITCHING CONTROL
IC- DETAIL
BLOCK DIAGRAM



LINK TO VOLTAGE CHART

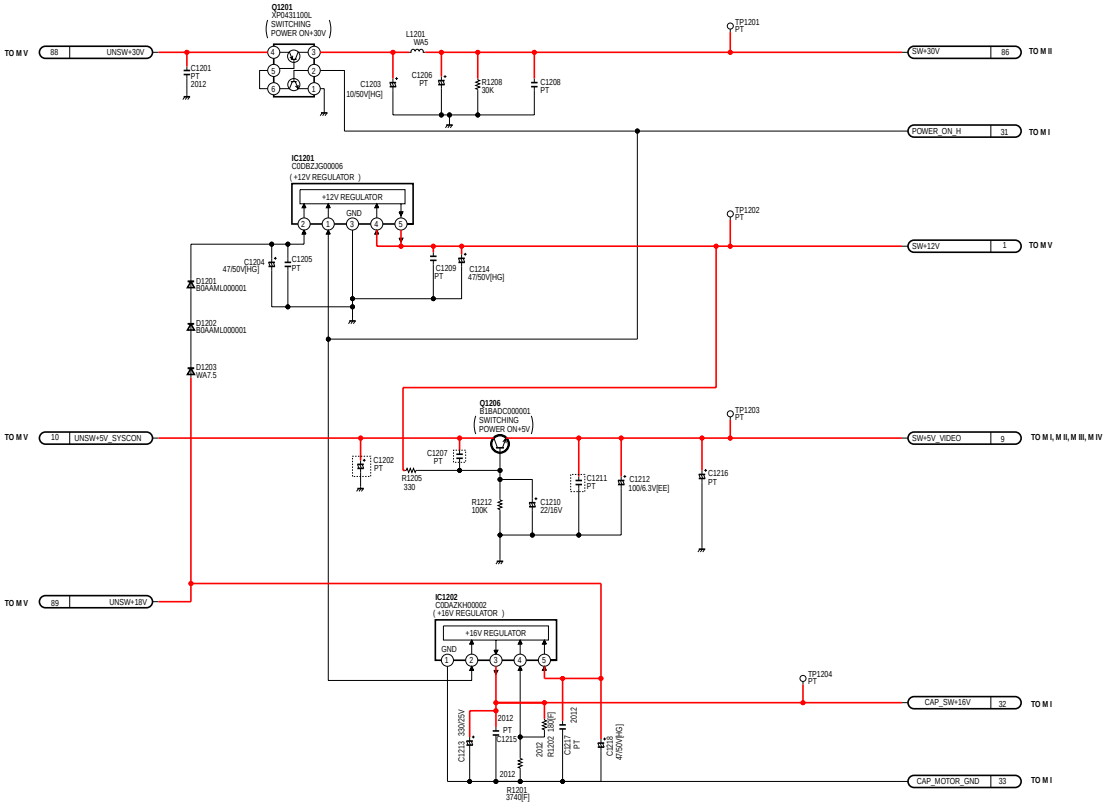
LSJB2217
MAIN V SCHEMATIC DIAGRAM
AG-520VDH

MAIN VI SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



LINK TO VOLTAGE CHART

LSJB2217
MAIN VI SCHEMATIC DIAGRAM
AG-520VDH

8.3. DEFLECTION SCHEMATIC DIAGRAM

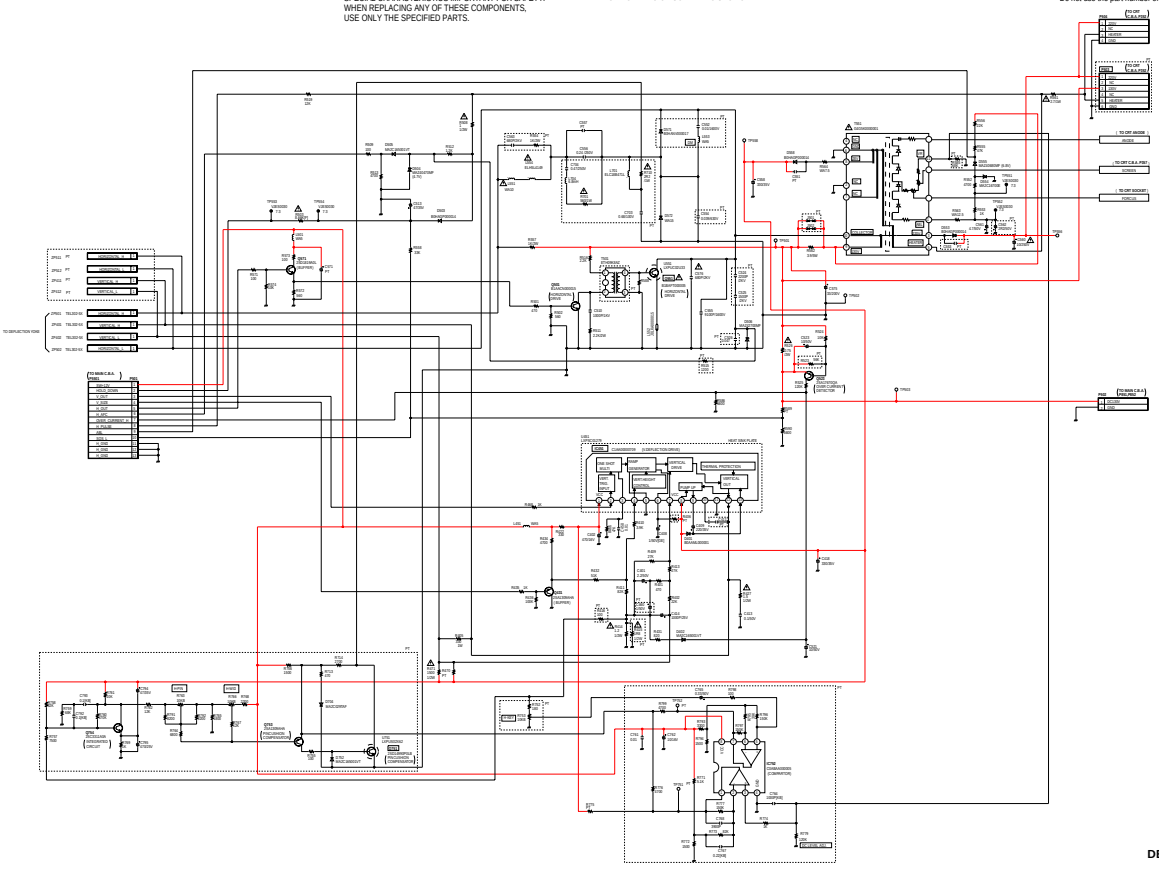
DEFLECTION SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



LINK TO VOLTAGE CHART
LSJB2218
DEFLECTION SCHEMATIC DIAGRAM
AG-520VDH

8.4. OPERATION / CRT SCHEMATIC DIAGRAMS

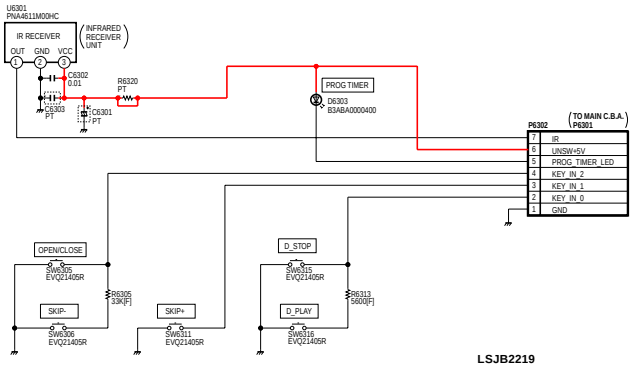
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

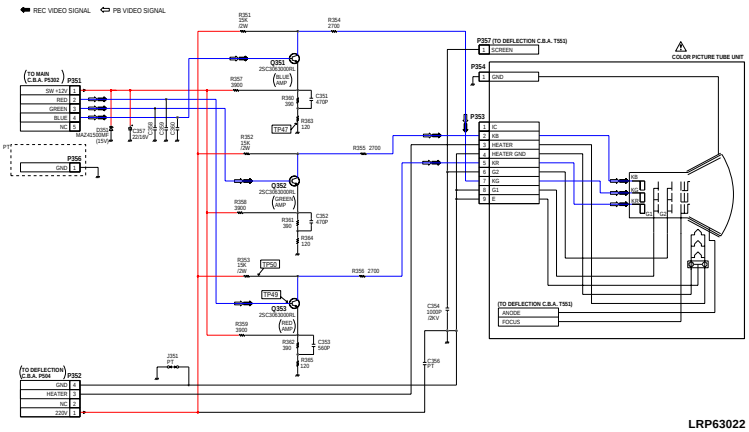
NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

OPERATION SCHEMATIC DIAGRAM



LSJB2219

CRT SCHEMATIC DIAGRAM



LRP63022

LINK TO VOLTAGE CHART
OPERATION SCHEMATIC DIAGRAM
CRT SCHEMATIC DIAGRAM
AG-520VDH

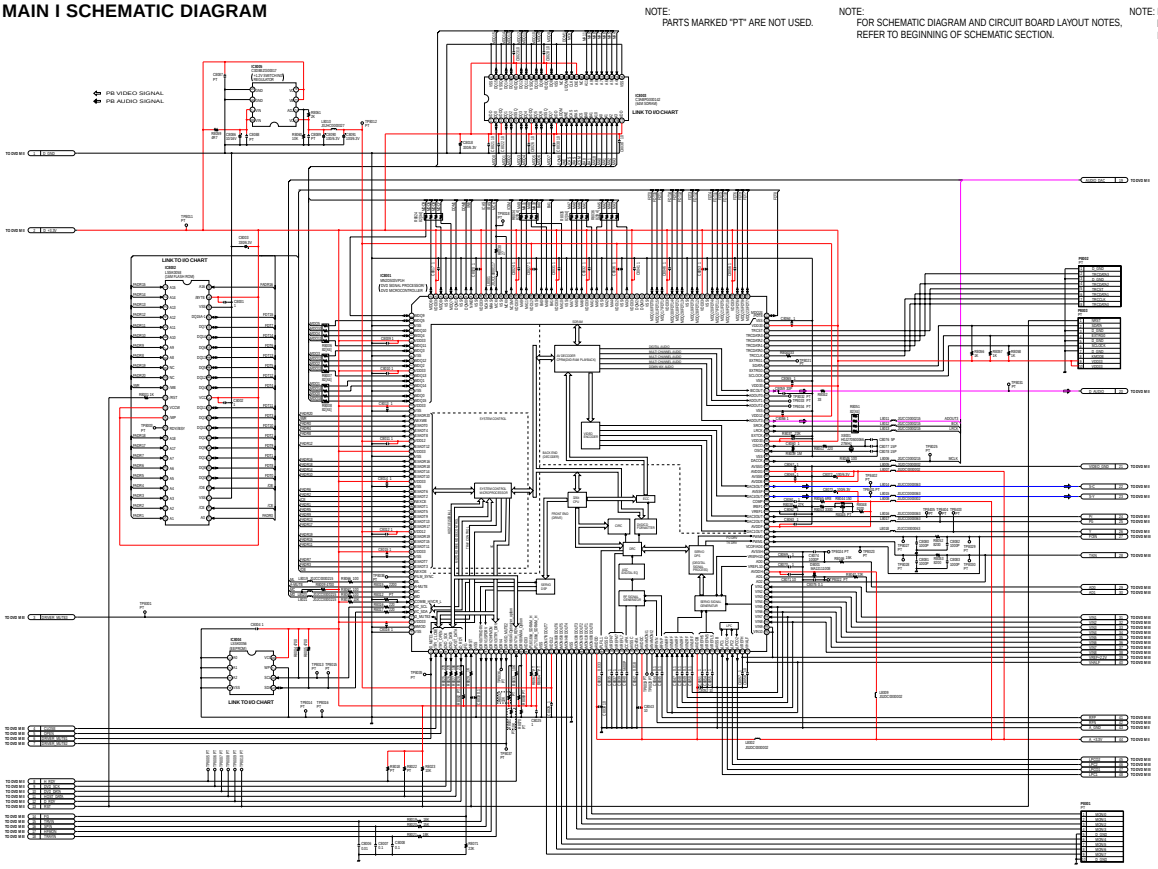
8.5. DVD MAIN / DVD SUB SCHEMATIC DIAGRAMS

DVD MAIN I SCHEMATIC DIAGRAM

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



LINK TO VOLTAGE CHART

LSJB2229
DVD MAIN I SCHEMATIC DIAGRAM
AG520VDH

I/O CHART OF IC8002

Pin No.	I/O	Signal Name	Description
1	I	A15	Memory address 16
2	I	A14	Memory address 15
3	I	A13	Memory address 14
4	I	A12	Memory address 13
5	I	A11	Memory address 12
6	I	A10	Memory address 11
7	I	A9	Memory address 10
8	I	A8	Memory address 9
9	I	NC	Memory address 20
10	I	NC	Memory address 21
11	I	/WE	Write enable : low
12	I	/RST	Reset : low
13	I	VCCW	+3.3V
14	-	WP	(Not used)
15	I	RDY/BSY	DVD Ready (Busy : low)
16	I	A18	Memory address 19
17	I	A17	Memory address 18
18	I	A7	Memory address 8
19	I	A6	Memory address 7
20	I	A5	Memory address 6
21	I	A4	Memory address 5
22	I	A3	Memory address 4
23	I	A2	Memory address 3
24	I	A1	Memory address 2
25	I	A0	Memory address 1
26	I	/CE	Memory chip select : low
27	-	VSS	Ground
28	I	/OE	Output enable : low
29	I/O	DQ0	Memory data 0
30	I/O	DQ8	Memory data 8
31	I/O	DQ1	Memory data 1
32	I/O	DQ9	Memory data 9
33	I/O	DQ2	Memory data 2
34	I/O	DQ10	Memory data 10
35	I/O	DQ3	Memory data 3
36	I/O	DQ11	Memory data 11
37	I	VCC	+3.3V
38	I/O	DQ4	Memory data 4
39	I/O	DQ12	Memory data 12
40	I/O	DQ5	Memory data 5
41	I/O	DQ13	Memory data 13
42	I/O	DQ6	Memory data 6
43	I/O	DQ14	Memory data 14
44	I/O	DQ7	Memory data 7
45	I/O	DQ15A-1	Memory data 15
46	-	VSS	Ground
47	I	/BYTE	+3.3V
48	I	A16	Memory address 16

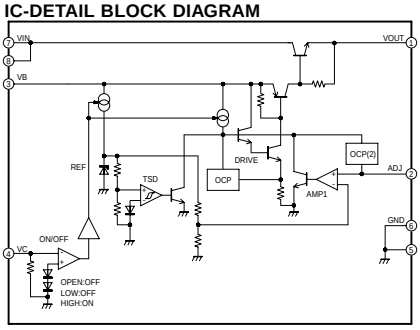
I/O CHART OF IC8003

Pin No.	I/O	Signal Name	Description
1	I	VDD	+3.3V
2	I/O	DQ0	SDRAM data 0
3	I	VDDQ	+3.3V
4	I/O	DQ1	SDRAM data 1
5	I/O	DQ2	SDRAM data 2
6	-	VSSQ	Ground
7	I/O	DQ3	SDRAM data 3
8	I/O	DQ4	SDRAM data 4
9	I	VDDQ	+3.3V
10	I/O	DQ5	SDRAM data 5
11	I/O	DQ6	SDRAM data 6
12	-	VSSQ	Ground
13	I/O	DQ7	SDRAM data 7
14	I	VDD	+3.3V
15	I	LDQM	Data input/output mask
16	I	/WE	Write enable : low
17	I	/CAS	Column address strobe : low
18	I	/RAS	Row address strobe :low
19	I	/CS	SDRAM chip select : low
20	I	BA0	Bank address 0
21	I	BA1	Bank address 1
22	I	A10/AP	SDRAM address 10
23	I	A0	SDRAM address 0
24	I	A1	SDRAM address 1
25	I	A2	SDRAM address 2
26	I	A3	SDRAM address 3
27	I	VDD	+3.3V
28	-	VSS	Ground
29	I	A4	SDRAM address 4
30	I	A5	SDRAM address 5
31	I	A6	SDRAM address 6
32	I	A7	SDRAM address 7
33	I	A8	SDRAM address 8
34	I	A9	SDRAM address 9
35	I	A11	SDRAM address 11
36	-	NC	(Not used)
37	-	CKE	(Not used)
38	I	CLK	SDRAM clock
39	I	UDQM	Data input/output mask
40	-	NC	(Not used)
41	-	VSS	Ground
42	I/O	DQ8	SDRAM data 8
43	I	VDDQ	+3.3V
44	I/O	DQ9	SDRAM data 9
45	I/O	DQ10	SDRAM data 10
46	-	VSSQ	Ground
47	I/O	DQ11	SDRAM data 11
48	I/O	DQ12	SDRAM data 12
49	I	VDDQ	+3.3V
50	I/O	DQ13	SDRAM data 13
51	I/O	DQ14	SDRAM data 14
52	-	VSSQ	Ground
53	I/O	DQ15	SDRAM data 15
54	-	VSS	Ground

I/O CHART OF IC8004

Pin No.	I/O	Signal Name	Description
1	-	A0	(Not used)
2	-	A1	(Not used)
3	-	A2	(Not used)
4	-	VSS	Ground
5	I/O	SDA	Serial data
6	I	SCL	Serial clock
7	-	WP	Write protect
8	I	VCC	+3.3V

IC8005
IC-DETAIL BLOCK DIAGRAM



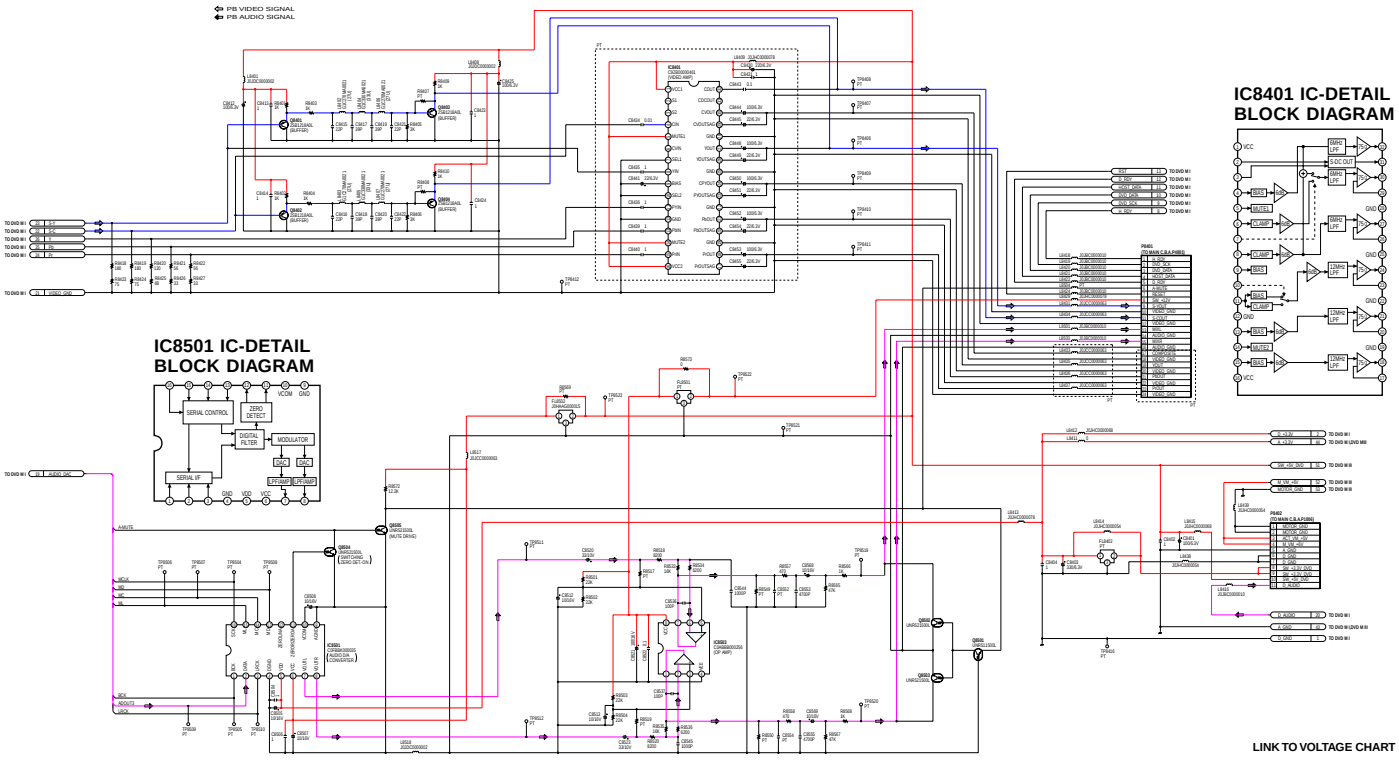
I/O CHART OF IC8002, IC8003, IC8004
IC8005 IC-DETAIL BLOCK DIAGRAM
AG-520VDH

DVD MAIN II SCHEMATIC DIAGRAM

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



LINK TO VOLTAGE CHART

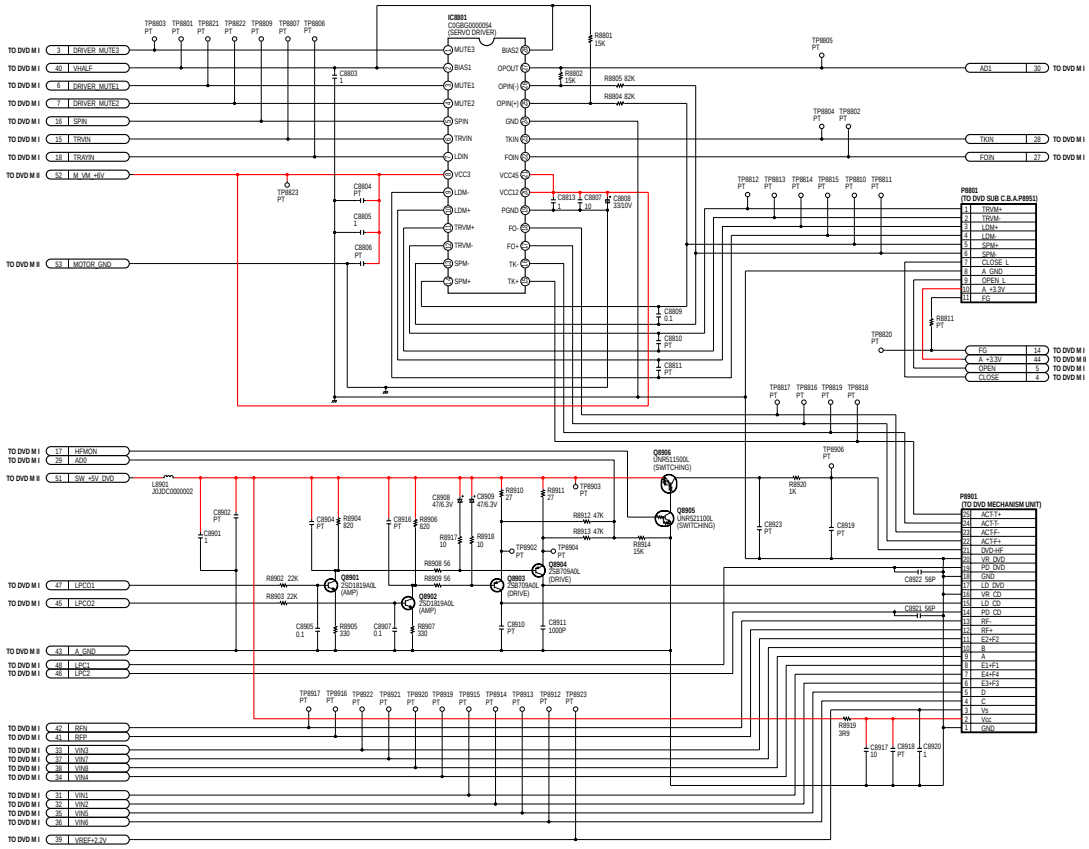
LSJB2229
DVD MAIN II SCHEMATIC DIAGRAM
AG520VDH

DVD MAIN III SCHEMATIC DIAGRAM

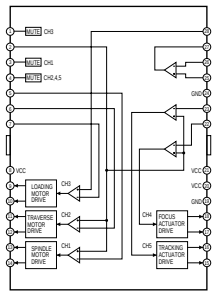
NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



IC8801 IC-DETAIL BLOCK DIAGRAM



LINK TO VOLTAGE CHART

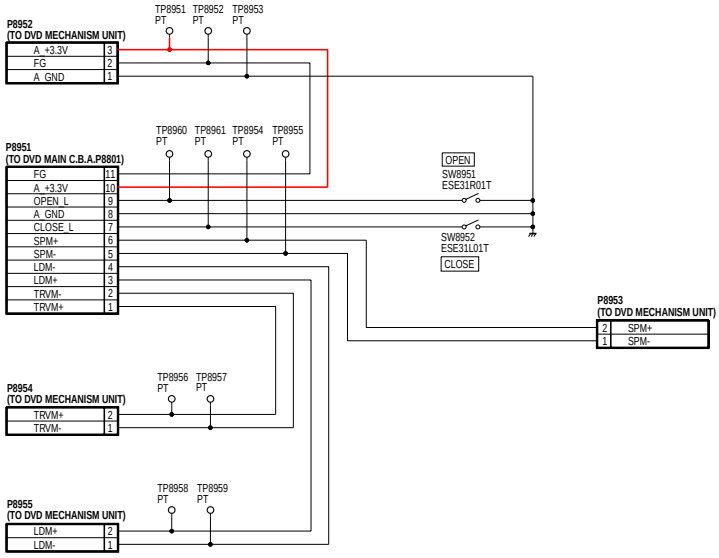
LSJB2229
DVD MAIN III SCHEMATIC DIAGRAM
AG520VDH

DVD SUB SCHEMATIC DIAGRAM

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.



LINK TO VOLTAGE CHART

LSJB2187
DVD SUB SCHEMATIC DIAGRAM
AG520VDH

8.6. INTERCONNECTION SCHEMATIC DIAGRAM

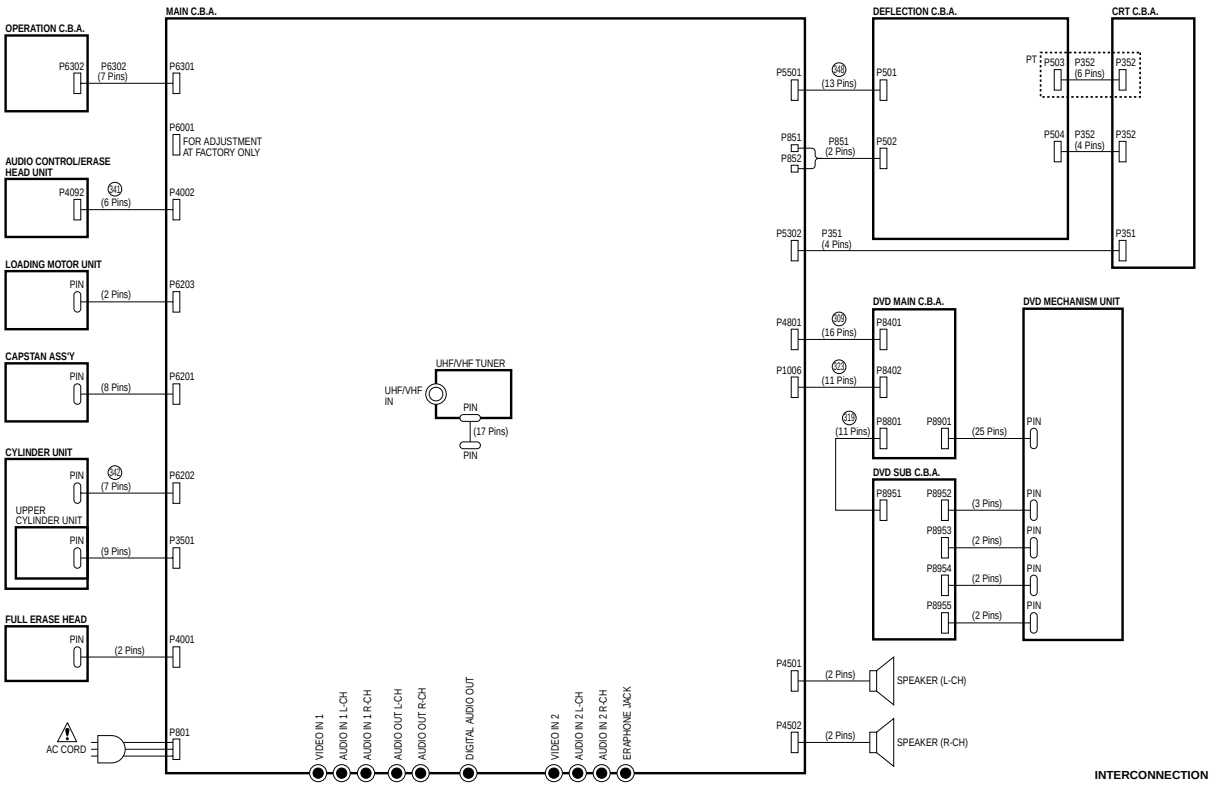
INTERCONNECTION SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



INTERCONNECTION SCHEMATIC DIAGRAM
AG-520VDH

8.7. VOLTAGE CHART

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE / PIN NO.	REC	PLAY
IC6001		
1	5.2	5.2
2	5.2	5.2
3	5.2	5.2
4	5.2	5.2
5	4.2	4.2
6	2.6	2.6
7	4.9	4.9
8	4.9	4.9
9	3.5	2.1
10	0	0
11	4.9	4.9
12	0.3	0.3
13	0.1	0.2
14	5.2	5.2
15	5.1	5.1
16	5.1	5.1
17	0	0
18	2.6	2.6
19	0	2.6
20	5.0	0.2
21	5.1	5.1
22	5.1	5.1
23	5.1	5.1
24	---	---
25	0	5.1
26	0	5.2
27	5.2	5.2
28	5.2	0
29	0	0
30	0	0
31	4.6	0
32	4.7	5.2
33	0	0
34	5.2	5.2
35	0	0
36	5.2	5.2
37	5.2	5.2
38	2.4	2.4
39	2.4	2.4
40	0	0
41	5.0	5.0
42	5.2	5.2
43	5.2	5.2
44	2.5	2.5
45	2.5	2.5
46	0	0
47	0	0
48	5.1	5.1
49	0	0
50	0	0
51	0.6	0.6
52	---	---
53	5.2	5.2
54	2.2	2.2

MODE / PIN NO.	REC	PLAY
55	2.6	2.6
56	0	0
57	0	0
58	0.3	0.3
59	0.4	0.4
60	0	0
61	0	0
62	0.1	0.1
63	0.1	0.1
64	0.1	0.1
65	0	0
66	2.0	2.0
67	2.0	2.0
68	0	0
69	0.3	0.3
70	5.1	5.1
71	3.2	3.2
72	2.8	2.8
73	0	0
74	0.2	0.2
75	---	---
76	2.7	3.2
77	2.6	2.8
78	5.2	5.2
79	---	---
80	---	---
81	5.2	5.2
82	0	0
83	0	0
84	0.1	0.1
85	0.2	0.2
86	2.6	2.6
87	2.6	2.6
88	0	0
89	0.3	0.3
90	1.4	1.4
91	2.6	2.6
92	2.6	2.6
93	1.3	4.3
94	2.4	2.6
95	2.9	2.6
96	2.6	2.6
97	2.6	2.6
98	5.2	5.2
99	5.2	5.2
100	0.3	0.3
IC6002		
A	1.3	1.3
K	0	0
E	0	0
C	---	---
IC6003		
A	2.4	2.4
K	1.3	1.3
E	0	0

MODE / PIN NO.	REC	PLAY
C	---	---
IC6004		
1	0	0
2	0	0
3	0	0
4	0	0
5	5.2	4.8
6	5.2	5.0
7	0	0
8	5.0	5.0
IC6005		
1	5.1	5.2
2	5.0	5.0
3	0	0
4	0	0
5	5.0	5.0
6	0	0
IC6201		
1	11.9	11.9
2	3.1	3.1
3	0	0
4	3.0	3.0
5	0.1	0.1
6	0.1	0.1
7	16.7	16.7
8	0	0
9	2.9	2.9
10	1.7	1.7
11	1.7	1.7
12	0.7	0.7
13	0	0
14	2.6	2.6
15	2.7	2.7
16	2.7	2.7
17	2.7	2.7
18	1.4	1.4
19	5.2	5.2
20	3.7	3.7
21	11.9	11.9
22	3.8	3.8
23	3.8	3.8
24	0	0
25	3.8	3.8
26	0	0
27	0	0
Q6001		
E	12.1	12.2
C	11.9	0.6
B	11.3	12.3
Q6002		
E	4.4	0
C	11.3	12.2
B	5.0	0

MODE / PIN NO.	REC	PLAY
Q6003		
E	0	0
C	0.1	0.2
B	0.6	0.6
Q6005		
E	5.1	5.2
C	5.0	5.1
B	4.3	4.3
Q6006		
E	0	0
C	5.0	0
B	0	0
Q6009		
E	0.1	0.1
C	5.0	5.0
Q6010		
E	0.1	0.1
C	4.8	5.1
TP6001	4.9	4.9
TP6002	4.9	4.9
TP6003	3.5	2.1
TP6004	---	---
TP6005	---	---
TP6006	0	0
TP6007	5.1	5.1
TP6008	0	0
TP6009	5.2	5.2
TP6013	0	0
TP6019	4.9	4.9
TP6099	5.2	5.1
TP6101	5.1	5.1
TP6104	5.1	5.1
TP6106	5.2	5.2
TP6111	0	0
TP6201	2.7	3.1
TP6202	2.6	2.8
TP6203	2.6	2.6
TP6205	2.6	2.6
TP6206	2.9	2.6
TP6207	2.6	2.6
TP6208	2.6	2.6
TP6209	2.4	2.4

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (VIDEO/AUDIO SECTION)

MODE / PIN NO.	STOP
IC850	
1	160.7
2	0.1
3	0
4	38.5
5	2.4
IC1001	
1	163.9
2	---
3	0
4	19.9
5	0.1
6	1.8
7	0.9
IC1002	
1	4.9
2	3.8
3	4.3
4	19.9
C1003	
1	2.5
2	0
3	3.8
IC1004	
1	---
2	0
3	5.1
4	5.5
5	5.0
IC1005	
1	5.1
2	9.2
3	0
4	6.5
5	5.0
IC1006	
1	5.1
2	5.1
3	0
4	3.3
5	3.3
IC1201	
1	4.6
2	13.7
3	0
4	12.0
5	12.0
IC1202	
1	0
2	4.6
3	15.3
4	14.4
5	15.3
IC1301	
1	15.3
2	15.3
3	---
4	0
5	0
IC3001	
1	---
2	0
3	---
4	5.1
5	2.1
6	2.6
7	2.8
8	1.9
9	1.9
10	1.9
11	2.6
12	1.6
13	0
14	2.7
15	2.7
16	2.0
17	2.8
18	2.0
19	2.7
20	0
21	2.7
22	5.0
23	2.3
24	---
25	0
26	3.0
27	---
28	0
29	2.2
30	2.8
31	---
32	2.5
33	2.1
34	---
35	3.0
36	2.3
37	3.0
38	2.2
39	1.4
40	2.1
41	3.0
42	2.0
43	2.1
44	0
45	3.2
46	3.2
47	5.0
48	4.8
49	3.2
50	5.0
51	2.0
52	5.0
53	2.6
54	0
55	2.1
56	0
57	2.2
58	2.2
59	4.9
60	4.9
61	3.9
62	2.3
63	2.2
64	2.3
65	2.3
66	2.3
67	2.2
68	1.2
69	2.0
70	2.7
71	0
72	4.8
73	3.7
74	3.4
75	2.8
76	2.2
77	2.8
78	0
79	0
80	2.3
81	0
82	---
83	3.4
84	5.0
85	2.2
86	2.2
87	2.2
88	0
89	2.2
90	2.2
91	2.2
92	5.1
93	1.5
94	2.5
95	2.5
96	2.5
97	0
98	2.3
99	0
100	2.6
IC4201	
1	0.4
2	0
3	2.5
4	0
5	2.5
6	2.5
7	2.2
8	0.4
9	0
10	0
11	0
12	2.2
13	2.6
14	0
15	0
16	2.6
17	0.8
18	2.6
19	2.5
20	2.1
21	2.1
22	2.1
23	0
24	2.1
25	5.0
26	2.1
27	0
28	3.8
29	1.5
30	0.8
31	0.1
32	2.5
33	2.5
34	0.7
35	2.5
36	0.1
37	1.7
38	0
39	---
40	5.0
41	0
42	4.9
43	4.9
44	0
45	0
46	0
47	2.5
48	2.3
49	0.4
50	3.6
51	5.0
52	3.6
53	6.0
54	2.5
55	0
56	0
57	6.0
58	12.0
59	---
60	0.2
61	2.5
62	2.5
63	2.8
64	0.6
IC4501	
1	10.5
2	0
3	0
4	1.7
5	1.1
6	13.4
7	21.1
8	10.7
9	0
10	0
11	0
12	10.7
13	---
IC4601	
1	4.5
2	4.5
3	4.5
4	4.5
5	4.5
6	4.5
7	4.5
8	2.2
9	4.5
10	5.2
11	4.5
12	4.5
13	2.8
14	3.3
15	2.8
16	0
17	4.5
18	4.5
19	4.5
20	4.5
21	4.5
22	4.5
23	4.5
24	4.5
IC5301	
1	2.7
2	0.1
3	0.1
4	---
5	2.1
6	2.1
7	0.1
8	0.1
9	0
10	3.9
11	0.1
12	0.1
13	4.3
14	6.2
15	0.2
16	0.2
17	0
18	0.2
19	0.2
20	0.2
21	0.2
22	3.8
23	3.8
24	9.1
25	3.6
26	9.0
27	0
28	0
29	0
30	5.8
31	6.3
32	3.5
33	6.4
34	8.2
35	0
36	0.1
37	9.7
38	9.0
39	2.2
40	2.3
41	2.4
42	0
43	5.2
44	5.2
45	---
46	2.7
47	5.0
48	0.7
IC5352	
1	2.3
2	4.3
3	2.5
4	0.1
5	3.2
6	5.0
7	0.3
8	0
IC5651	
1	0
2	2.3
3	2.9
4	2.5
5	1.4
6	0
7	0
8	5.1
9	0
10	2.4
11	2.3
12	3.5
13	3.9
14	1.7
15	3.8
16	5.1
IC5653	
1	3.4
2	0
3	3.4
4	4.9
5	3.4
6	5.0
7	1.4
8	0
Q591	
E	0
C	12.0
B	0
Q801	
E	0
C	0.2
B	0.7
Q1201	
1	0
2	4.6
3	28.3
4	28.3
5	0
6	0
Q1206	
E	5.1
C	5.2
B	5.9
Q3001	
E	0
C	0.1
B	0
Q3002	
E	1.7
C	5.0
B	2.3
Q3003	
E	1.7
C	0
B	1.0
Q3005	
E	0
C	0
B	4.7
Q3006	
E	1.6
C	5.1
B	2.2
Q3305	
E	0
C	4.0
B	-0.2
Q4081	
E	5.1
C	5.1
B	4.3
Q4082	
E	0
C	0
B	0.8
Q4083	
E	0
C	0
B	0.8
Q4101	
E	0
C	0.6
B	0.5
Q4201	
E	0.3
C	---
B	0
Q4203	
E	0
C	0
B	---
Q4204	
E	0
C	0
B	---
Q5301	
E	3.2
C	9.1
B	3.8
Q5302	
E	5.2
C	9.1
B	5.7
Q5651	
E	1.9
C	0
B	1.3
Q5652	
E	1.1
C	4.2
B	1.7
Q5653	
E	2.5
C	0
B	1.8
Q5657	
E	1.6
C	7.5
B	2.1
Q5658	
E	6.9
C	9.0
B	7.5
Q5659	
E	0
C	0
B	4.7
Q5901	
E	9.1
C	12.1
B	9.7
TP809	0
TP810	0.2
TP851	132.8
TP852	0
TP860	22.0
TP861	0
TP1001	28.3
TP1002	15.3
TP1003	6.4
TP1004	5.3
TP1005	0
TP1201	28.3
TP1202	5.1
TP1203	5.1
TP1204	15.3
TP3001	1.8
TP3002	2.2
TP3012	2.1
TP4001	0
TP4002	0
TP4003	0
TP4004	0
TP4011	0
TP4014	0
TP4101	0
TP4102	0
TP4103	0
TP4201	0
TP4202	0
TP4205	1.5
TP4206	4.6
TP4207	0.7
TP4208	0
TP4209	0.4
TP4501	11.0
TP4502	11.0
TP4507	0
TP4508	0
TP4509	0
TP4591	10.9
TP4592	10.9
TP5009	0
TP5019	0
TP5301	3.7
TP5302	3.7
TP5303	3.9
TP5305	3.7
TP5307	3.7
TP5308	2.7
TP5309	1.8
TP5310	7.4
TP5312	6.3
TP5313	0.2
TP5401	3.8
TP5402	2.3
TP5501	0.7
TP5503	1.6
TP5504	-0.3
TP5505	0
TP5651	2.7
TP5652	6.1
TP9501	0
TP9553	0
TP9554	0

DEFLECTION C.B.A.

MODE / PIN NO.	STOP
IC451	
1	10.4
2	3.8
3	5.2
4	5.5
5	0
6	5.1
7	4.9
8	27.7
9	2.0
10	1.5
11	0
12	15.2
13	28.1
IC752	
1	1.3
2	2.9
3	2.9
4	0
5	3.7
6	3.8
7	3.8
8	12.0
Q431	
E	2.9
C	0
B	2.2
Q501	
E	0
C	94.7
B	0.4
Q523	
E	132.7
C	0.2
B	132.2
Q551	
E	0
C	---
B	0
Q571	
E	1.3
C	11.6
B	1.6
Q751	
E	0
C	12.3
B	0.6
Q753	
E	4.8
C	0.7
B	4.2

MODE / PIN NO.	STOP
Q754	
E	1.8
C	0
B	2.5
TP501	132.3
TP502	0
TP503	132.7
TP551	-6.7
TP552	-8.2
TP553	5.6
TP554	21.2
TP556	229.0
TP558	27.7

VOLTAGE CHART
AG-520VDH

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

CRT C.B.A.

MODE / PIN NO.	STOP
Q351	
E	3.1
C	131.1
B	3.5
Q352	
E	3.1
C	127.9
B	3.5
Q353	
E	3.0
C	131.9
B	3.5
TP47	0
TP49	3.5
TP50	131.9

DVD MAIN C.B.A.

MODE / PIN NO.	STOP
IC8001	
1	---
2	---
3	0
4	---
5	---
6	3.3
7	---
8	---
9	0
10	---
11	---
12	3.3
13	---
14	---
15	---
16	0
17	---
18	---
19	3.3
20	0
21	3.4
22	3.4
23	---
24	---
25	---
26	1.2
27	---
28	3.3
29	0
30	0.4
31	0.9
32	---
33	---
34	3.3
35	0
36	---
37	---
38	2.2
39	---
40	---
41	---
42	---
43	0.3
44	1.2
45	0.1
46	---
47	---
48	3.3
49	0
50	---
51	---
52	2.0
53	0
54	3.3
55	---
56	3.4
57	3.4
58	3.3
59	3.3
60	3.4
61	---
62	3.3
63	0
64	0
65	---
66	3.4
67	3.4
68	---
69	3.4
70	---
71	0.1
72	1.2
73	3.4
74	0
75	1.7
76	2.4
77	---
78	0.1
79	---
80	3.4
81	3.3
82	3.1
83	---
84	3.3
85	---
86	---
87	0
88	---
89	1.2
90	3.4
91	3.4
92	3.4
93	0
94	---
95	---
96	---
97	---
98	3.3
99	0.9
100	0
101	2.4
102	2.2
103	1.9
104	0.3
105	0
106	1.4
107	3.3
108	2.1
109	---
110	1.9
111	1.9
112	1.7
113	1.7
114	1.7
115	1.7
116	1.7
117	1.7
118	3.3
119	2.0
120	1.7
121	1.5
122	0
123	0.4
124	1.2
125	0.4
126	0.2
127	2.3
128	1.7
129	2.3
130	2.2
131	2.4
132	2.4
133	2.4
134	2.4
135	2.0
136	2.0
137	2.0
138	2.0
139	1.8
140	---
141	3.4
142	1.3
143	---
144	2.1
145	0
146	0.5
147	1.7
148	1.7
149	0.7
150	0
151	0.5
152	0.5
153	1.4
154	1.4
155	2.2
156	0.5
157	0
158	0.9
159	3.3
160	0
161	3.3
162	0
163	1.8
164	0
165	1.7
166	1.7
167	3.3
168	1.6
169	1.8
170	1.7
171	1.4
172	1.3
173	0
174	0
175	0
176	0
177	1.7
178	3.3
179	0
180	---
181	---
182	---
183	---
184	---
185	---
186	---
187	---
188	---
189	---
190	3.3
191	0
192	---
193	1.5
194	---
195	---
196	3.3
197	---
198	---
199	---
200	---
201	0
202	3.3
203	---
204	---
205	0
206	---
207	---
208	---
209	3.3
210	---
211	---
212	---
213	0
214	2.4
215	2.4
216	3.3
217	---
218	0
219	1.3
220	---
221	---
222	0
223	---
224	---
225	3.3
226	---
227	---
228	---
229	0
230	---
231	3.3
232	1.7
233	---
234	2.3
235	0
236	1.3
237	---
238	---
239	3.3
240	3.0
241	3.3
242	0
243	1.9
244	3.3
245	3.2
246	3.3
247	0
248	0
249	2.4
250	0
251	1.5
252	---
253	0
254	---
255	3.3
256	---
IC8002	
1	---
2	---
3	---
4	---
5	---
6	---
7	---
8	---
9	0.1
10	3.4
11	3.4
12	3.4
13	3.3
14	3.3
15	0.9
16	0.9
17	0.3
18	---
19	---
20	---
21	---
22	---
23	---
24	---
25	---
26	2.2
27	0
28	2.0
29	---
30	---
31	---
32	---
33	---
34	---
35	---
36	---
37	3.3
38	---
39	---
40	---
41	---
42	---
43	---
44	---
45	---
46	0
47	3.3
48	0.4
IC8003	
1	3.3
2	---
3	3.3
4	---
5	---
6	0
7	---
8	---
9	3.3
10	---
11	---
12	0
13	---
14	3.3
15	2.4
16	0
17	3.2
18	3.3
19	3.0
20	2.3
21	1.7
22	---
23	---
24	---
25	---
26	---
27	3.3
28	0
29	---
30	---
31	---
32	---
33	---
34	---
35	---
36	---
37	3.3
38	3.3
39	1.5
40	---
41	0
42	---
43	3.3
44	---
45	---
46	0
47	---
48	---
49	3.3
50	---
51	---
52	0
53	---
54	0
IC8004	
1	0
2	0
3	0
4	0
5	3.3
6	3.2
7	0
8	3.3
IC8005	
1	1.2
2	1.1
3	3.3
4	3.3
5	0
6	0
7	2.2
8	2.2
IC8501	
1	1.7
2	0.1
3	1.7
4	0
5	3.3
6	5.0
7	0.1
8	0.1
9	0
10	0
11	---
12	---
13	1.6
14	0.4
15	3.3
16	0.3
IC8503	
1	6.2
2	1.0
3	6.2
4	0
5	6.0
6	6.0
7	0.1
8	12.0
IC8801	
1	0
2	1.6
3	3.3
4	3.3
5	1.8
6	1.6
7	1.6
8	6.5
9	3.0
10	3.0
11	3.1
12	2.9
13	1.4
14	4.6
15	3.0
16	3.0
17	3.0
18	3.0
19	0
20	6.5
21	6.5
22	1.6
23	1.6
24	0
25	2.1
26	2.1
27	2.2
28	1.6
Q8504	
E	0
C	0
B	0.1
Q8505	
E	0.1
C	3.3
B	0
Q8901	
E	0.1
C	0
B	0
Q8902	
E	5.1
C	0
B	5.1
Q8903	
E	5.1
C	0
B	5.1
Q8904	
E	5.1
C	0
B	5.1
Q8905	
E	0
C	3.9
B	0.3
Q8906	
E	5.0
C	5.1
B	0.1
TP8001	0
TP8003	2.2
TP8005	4.4
TP8006	3.4
TP8007	3.4
TP8008	4.8
TP8009	2.9
TP8010	3.5
TP8011	3.3
TP8012	1.3
TP8013	3.3
TP8014	0
TP8015	3.3
TP8016	0
TP8018	1.7
TP8019	1.8
TP8020	1.7
TP8021	0
TP8022	1.6
TP8023	1.4
TP8024	2.0
TP8025	1.7
TP8027	1.6
TP8028	1.6
TP8029	1.5
TP8030	1.5
TP8031	1.7

VOLTAGE CHART
AG-520VDH

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

DVD SUB
C.B.A.

MODE / PIN NO.	STOP
TP8032	0.1
TP8033	0.1
TP8034	0.1
TP8035	0
TP8036	---
TP8037	3.4
TP8038	0
TP8401	0.5
TP8402	1.2
TP8403	0.4
TP8404	0.5
TP8405	0.5
TP8406	0.6
TP8407	0
TP8408	0
TP8409	0.4
TP8410	1.2
TP8411	1.5
TP8412	0
TP8416	0
TP8504	0
TP8505	1.6
TP8506	3.3
TP8507	3.1
TP8508	3.3
TP8509	0
TP8510	1.7
TP8511	2.6
TP8512	2.6
TP8519	6.0
TP8520	6.0
TP8521	0
TP8522	12.0
TP8523	5.1
TP8801	1.6
TP8802	1.6
TP8803	0
TP8804	1.6
TP8805	2.2
TP8806	1.6
TP8807	1.6
TP8809	1.8
TP8810	4.7
TP8811	1.4
TP8812	3.0
TP8813	3.1
TP8814	3.0
TP8815	3.0
TP8816	3.0
TP8817	3.0
TP8818	3.1
TP8819	3.0
TP8820	1.5
TP8821	3.3
TP8822	3.3

MODE / PIN NO.	STOP
TP8823	6.5
TP8902	5.1
TP8903	5.1
TP8904	5.1
TP8906	0.5
TP8912	2.3
TP8913	2.3
TP8914	2.3
TP8915	2.2
TP8916	2.5
TP8917	2.5
TP8919	2.4
TP8920	2.3
TP8921	2.3
TP8922	2.3
TP8923	2.3

MODE / PIN NO.	STOP
TP8951	3.3
TP8952	1.5
TP8953	0
TP8954	1.4
TP8955	4.6
TP8956	3.0
TP8957	3.0
TP8958	3.0
TP8959	3.0
TP8960	3.3
TP8961	0

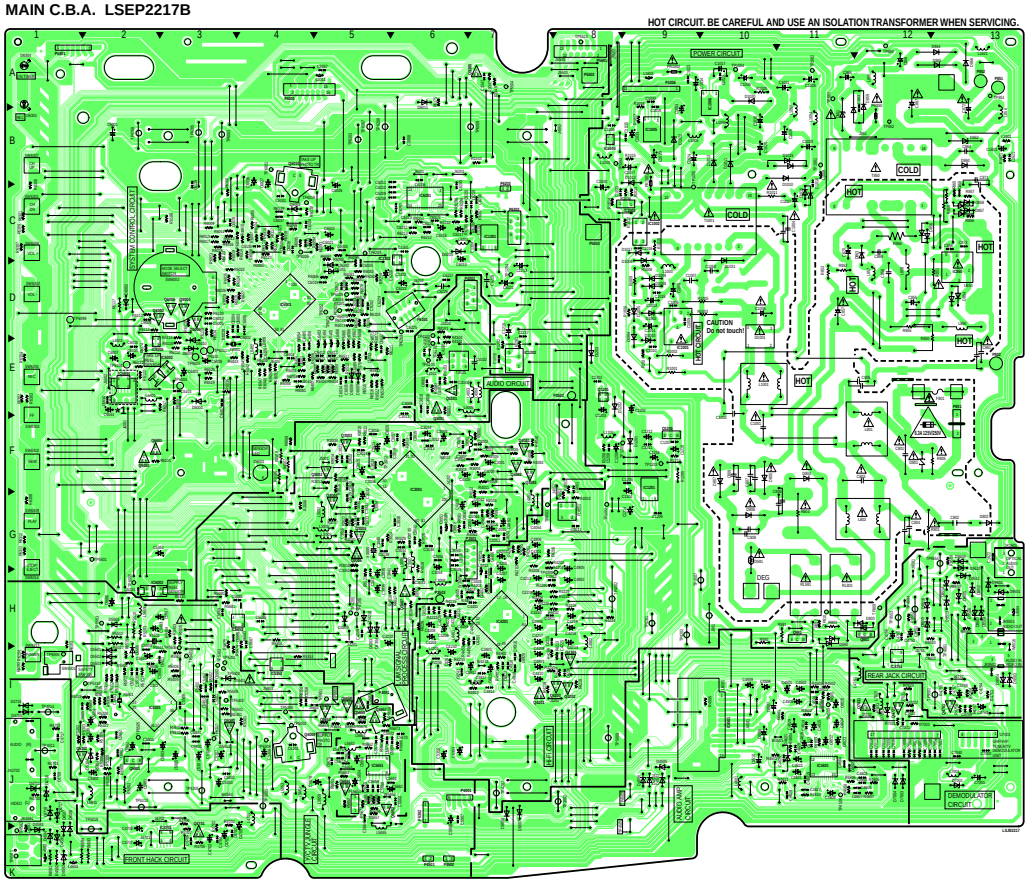
VOLTAGE CHART
AG-520VDH

AG-520VDH

9 CIRCUIT BOARD LAYOUT

9.1. MAIN C.B.A.

MAIN C.B.A. LSEP2217B



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

***1 Note**

There are 2 types of EEPROM IC (IC6004) used on the Main C.B.A. (DIP TYPE and SOP TYPE) However, these are same reliability.

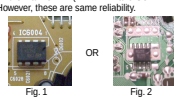


Fig. 1 Fig. 2

Be sure to install DIP type IC from the component side as shown in Fig. 1.
Be sure to intall SOP type IC from the foil side as shown in Fig. 2.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 6.3A 125V/250V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME TYPE 6.3A 125V/250V

MAIN C.B.A. LSEP2217B
AG-520VDH

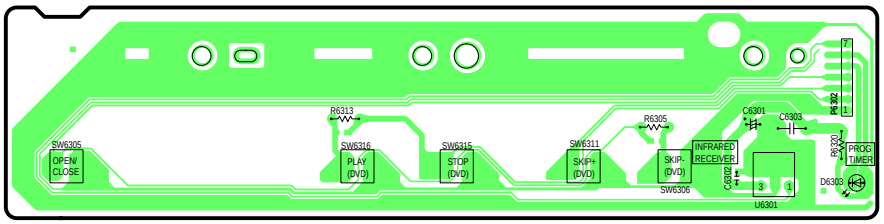
9.2. OPERATION C.B.A.

OPERATION C.B.A. LSEP2219A

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.



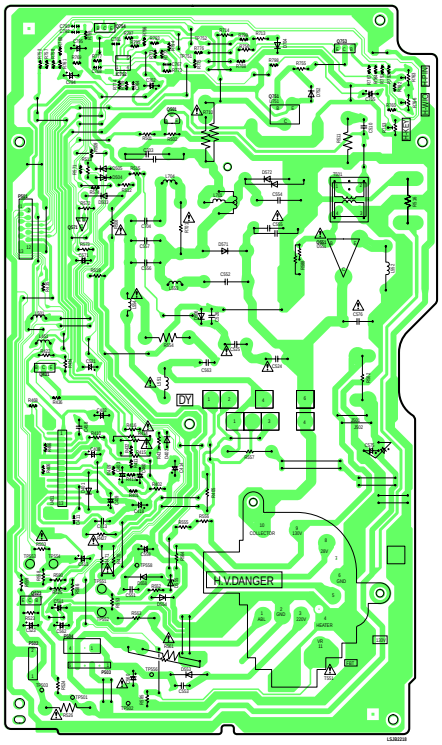
LSJB2219

9.3. DEFLECTION / CRT C.B.A.

DEFLECTION C.B.A. LSEP2218B

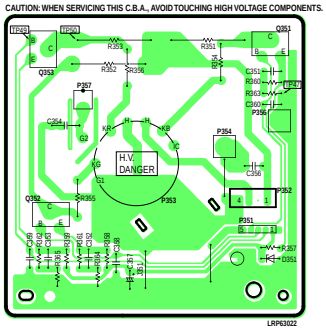
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.



CRT C.B.A. LRP63022F

CAUTION: WHEN SERVICING THIS C.B.A., AVOID TOUCHING HIGH VOLTAGE COMPONENTS.



LRP63022

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

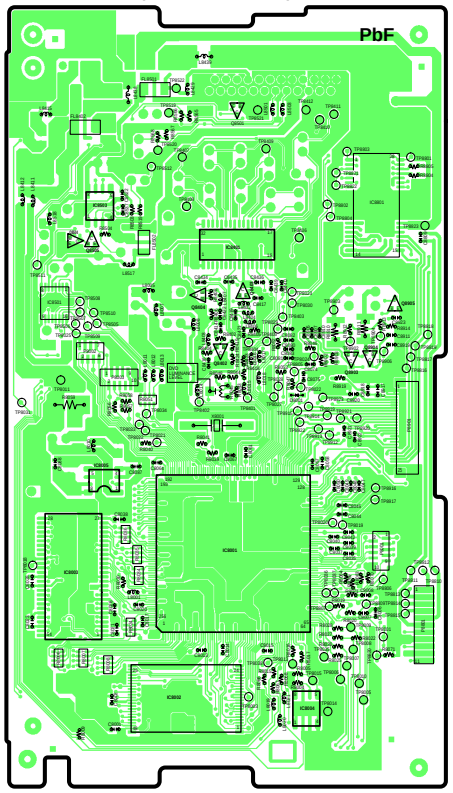
DEFLECTION C.B.A. LSEP2218B/LSEP2218A
CRT C.B.A. LRP63022F

AG-520VDH

9.4. DVD MAIN / DVD SUB C.B.A.

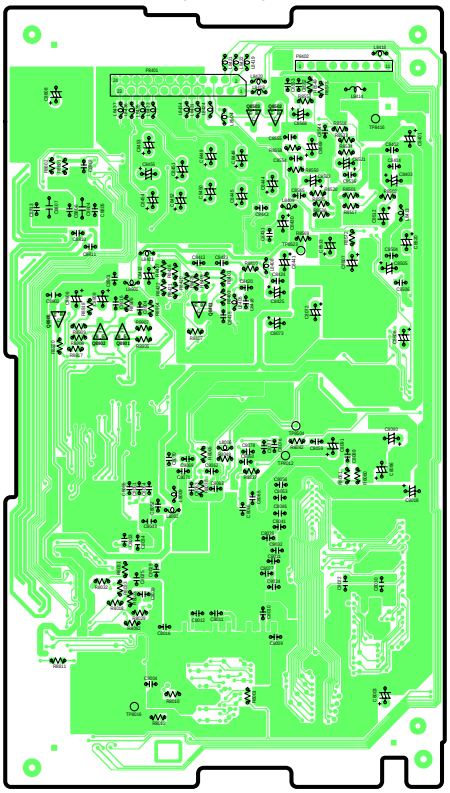
DVD MAIN C.B.A. LSUQ0079

(COMPONENT SIDE)



(DUAL PATTERNS)

(FOIL SIDE)



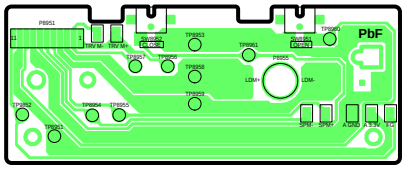
(DUAL PATTERNS)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS. FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

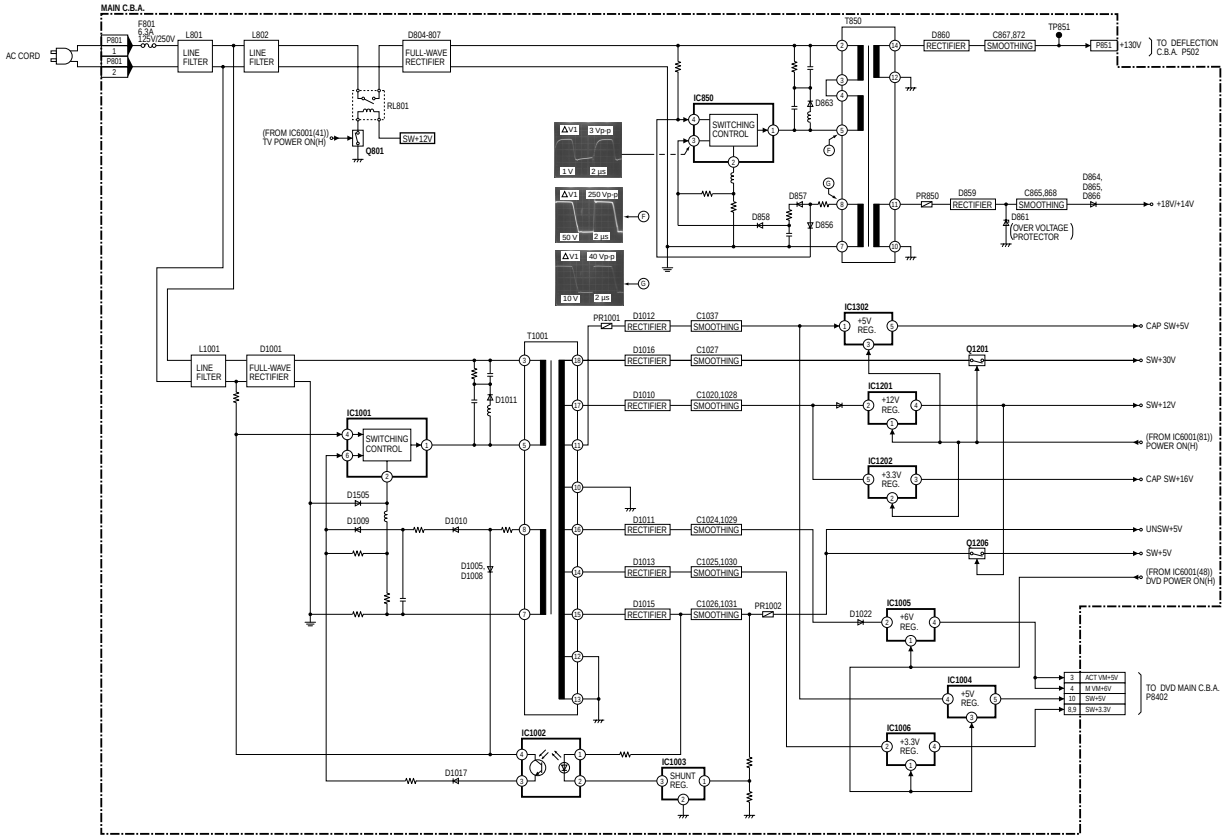
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

DVD SUB C.B.A. LSEP2187A



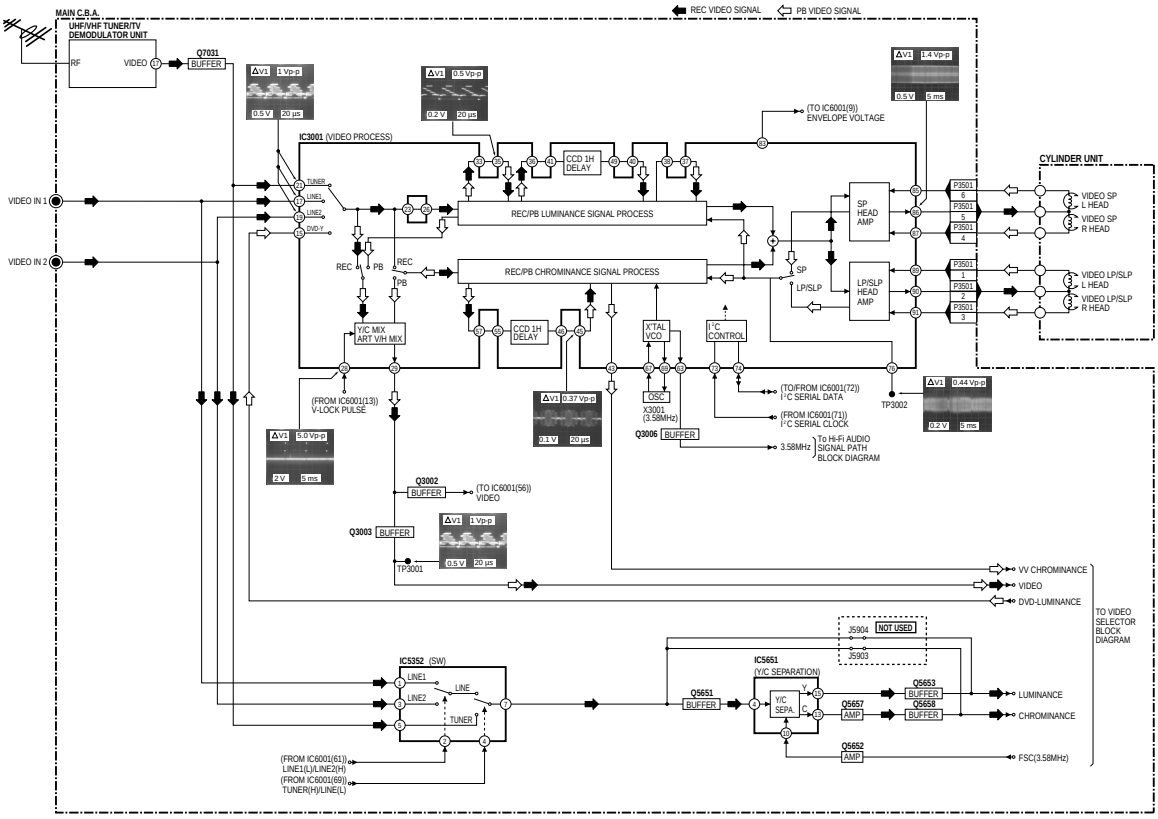
10 BLOCK DIAGRAMS

POWER SUPPLY BLOCK DIAGRAM



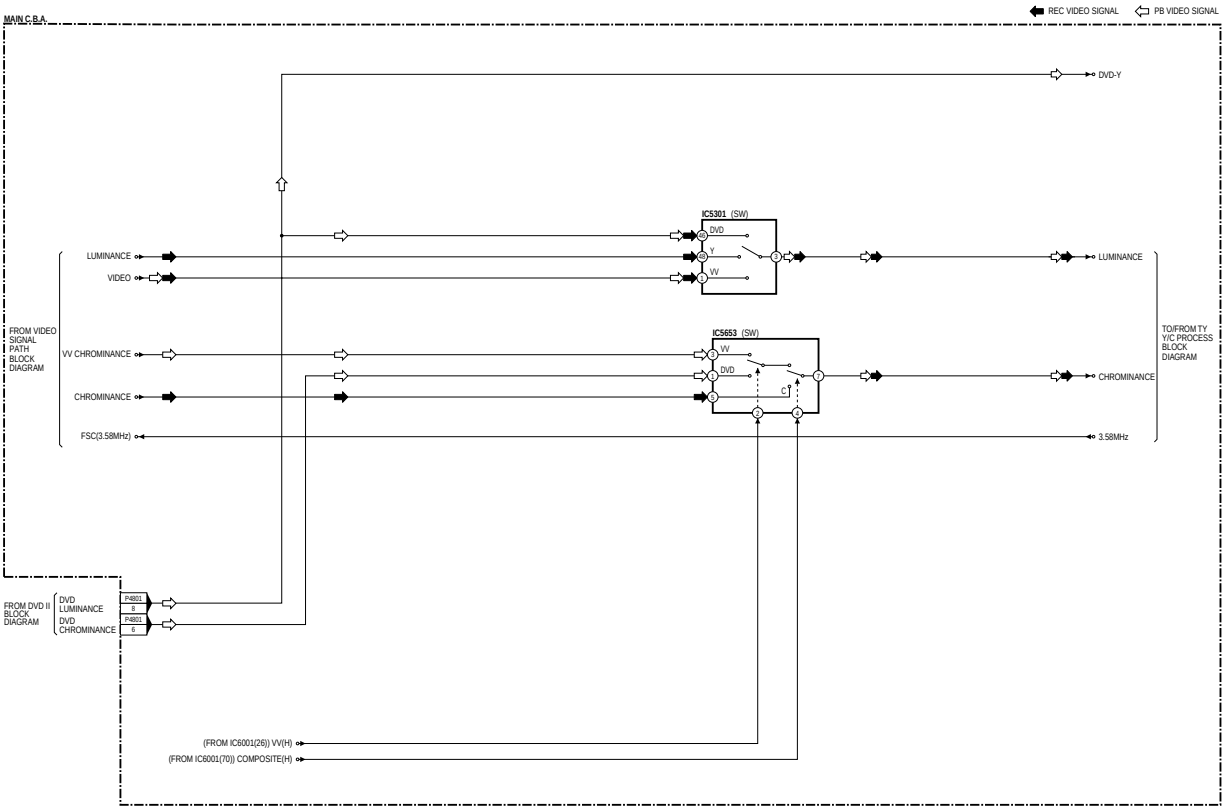
POWER SUPPLY BLOCK DIAGRAM
AG-520VDH

VIDEO SIGNAL PATH BLOCK DIAGRAM



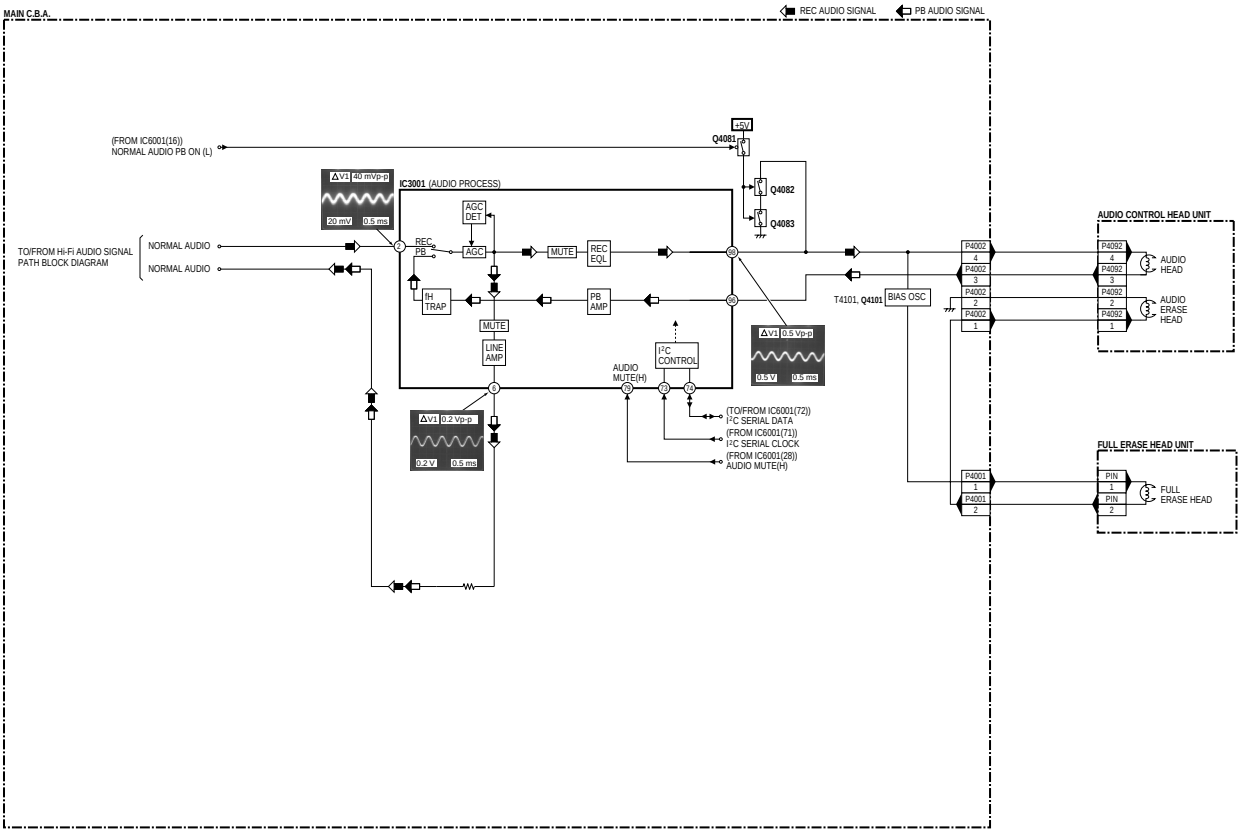
VIDEO SIGNAL PATH BLOCK DIAGRAM
AG-520VDH

VIDEO SELECTOR BLOCK DIAGRAM



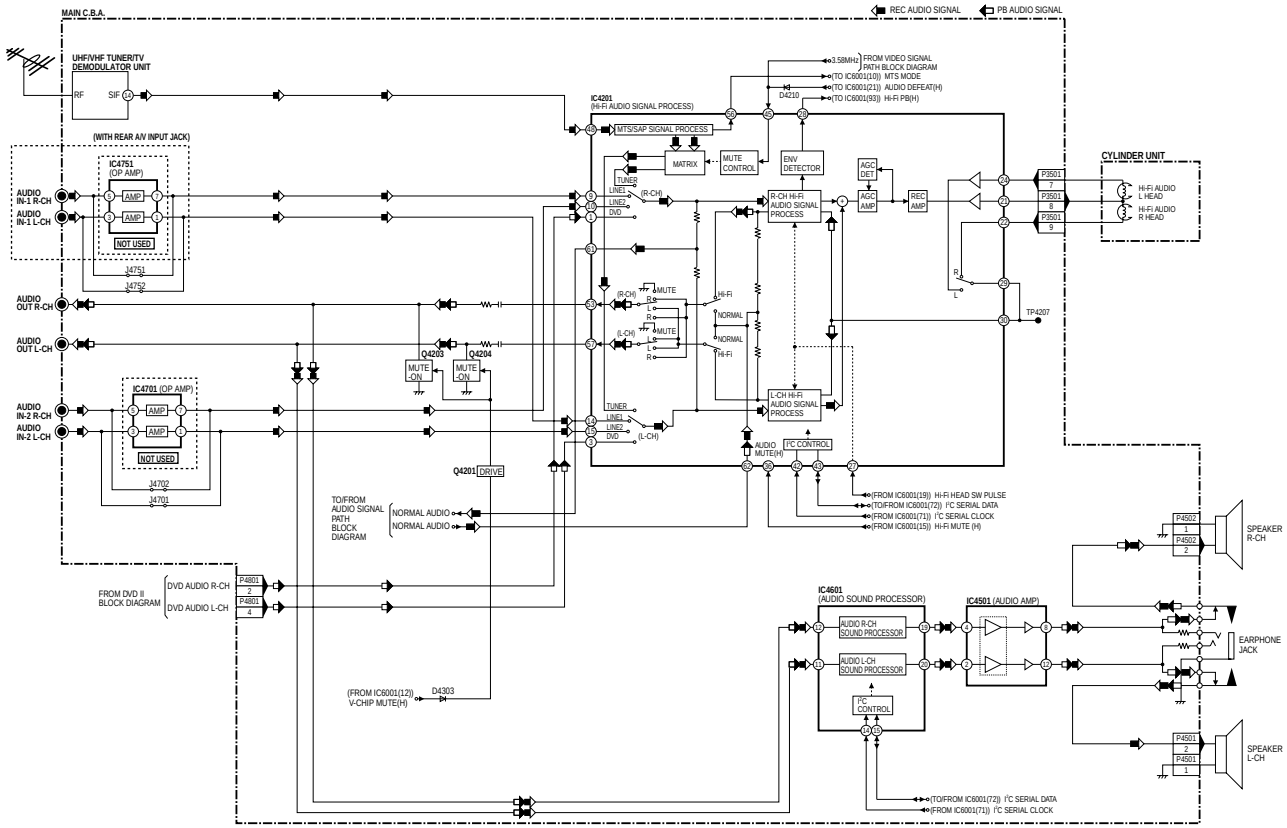
VIDEO SELECTOR BLOCK DIAGRAM
AG-520VDH

AUDIO SIGNAL PATH BLOCK DIAGRAM



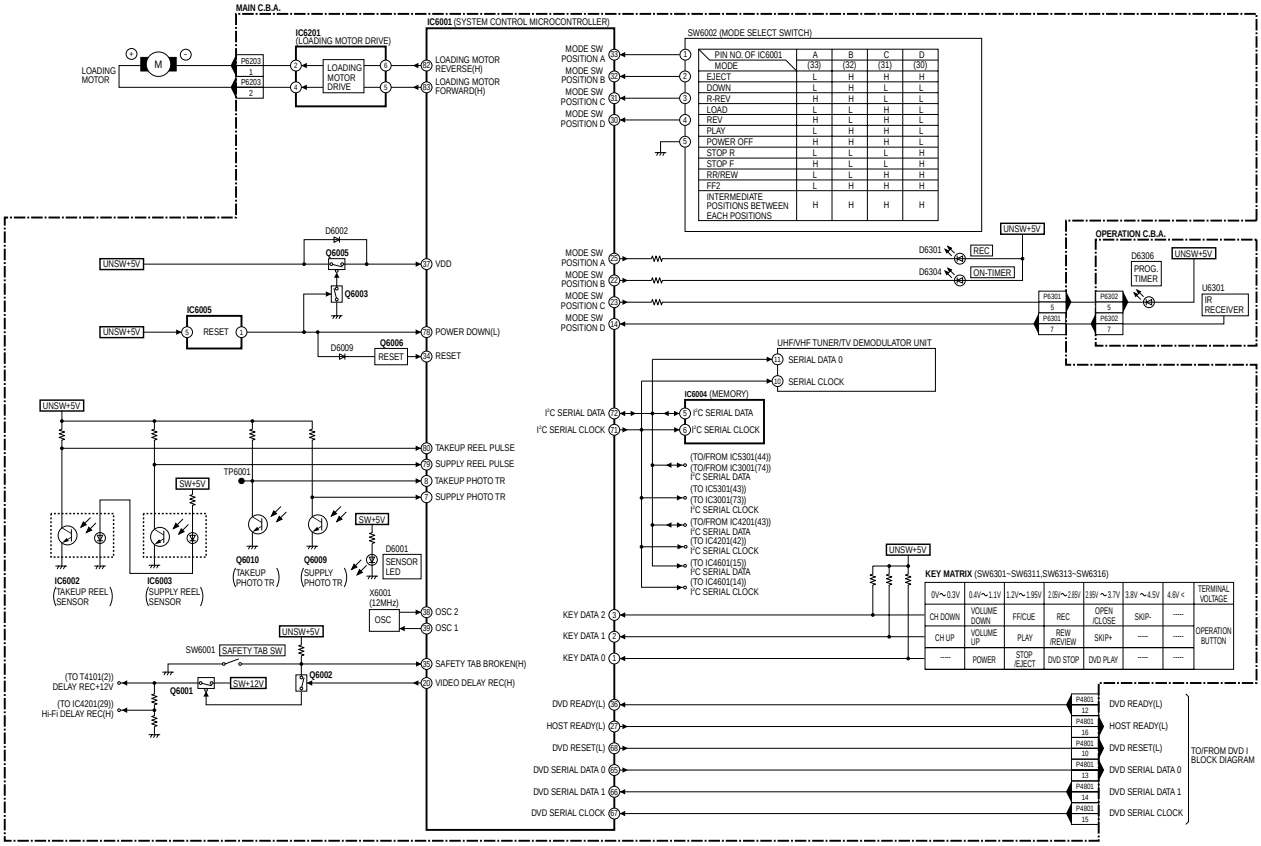
AUDIO SIGNAL PATH BLOCK DIAGRAM
AG-520VDH

Hi-Fi AUDIO SIGNAL PATH BLOCK DIAGRAM



Hi-Fi AUDIO SIGNAL PATH BLOCK DIAGRAM
AG-520VDH

SYSTEM CONTROL BLOCK DIAGRAM



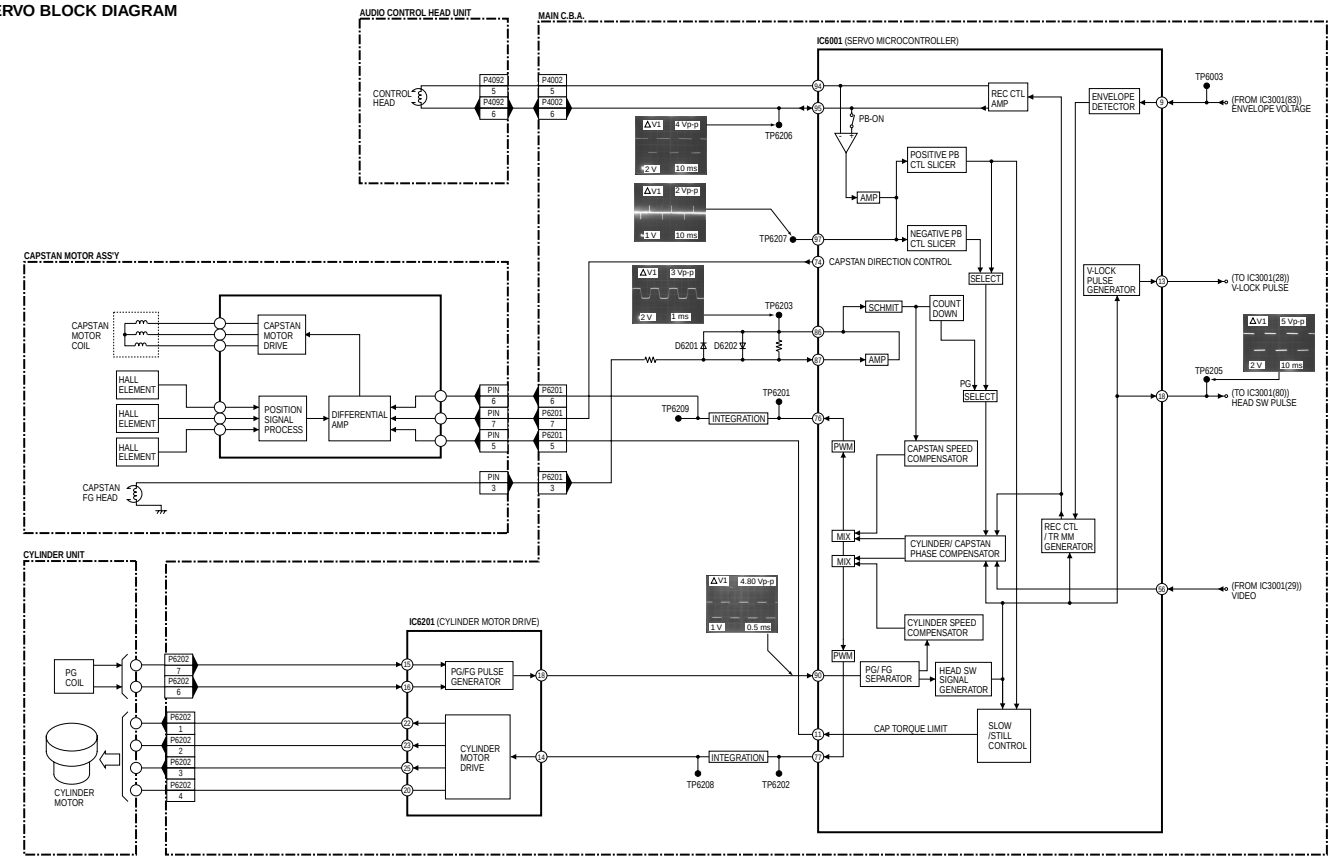
PIN NO. OF IC6001 / MODE	A (33)	B (32)	C (31)	D (30)
EJECT	L	H	H	H
DOWN	L	H	L	L
R-REV	H	H	L	L
LOAD	L	L	H	L
REV	H	L	H	L
PLAY	L	H	H	L
POWER OFF	H	H	H	L
STOP R	L	L	L	H
STOP F	H	L	L	H
RR/RREW	L	L	H	H
FF2	L	H	H	H
INTERMEDIATE POSITIONS BETWEEN EACH POSITIONS	H	H	H	H

KEY MATRIX (SW6301~SW6311,SW6313~SW6316)

0V~0.3V	0.4V~1.1V	1.2V~1.95V	2.05V~2.65V	2.85V~3.7V	3.8V ~4.5V	4.8V <	TERMINAL VOLTAGE
CH DOWN	VOLUME DOWN	FF/CUE	REC	OPEN /CLOSE	SKIP-	----	OPERATION BUTTON
CH UP	VOLUME UP	PLAY	REW /REVIEW	SKIP+	----	----	
----	POWER	STOP /EJECT	DVD STOP	DVD PLAY	----	----	

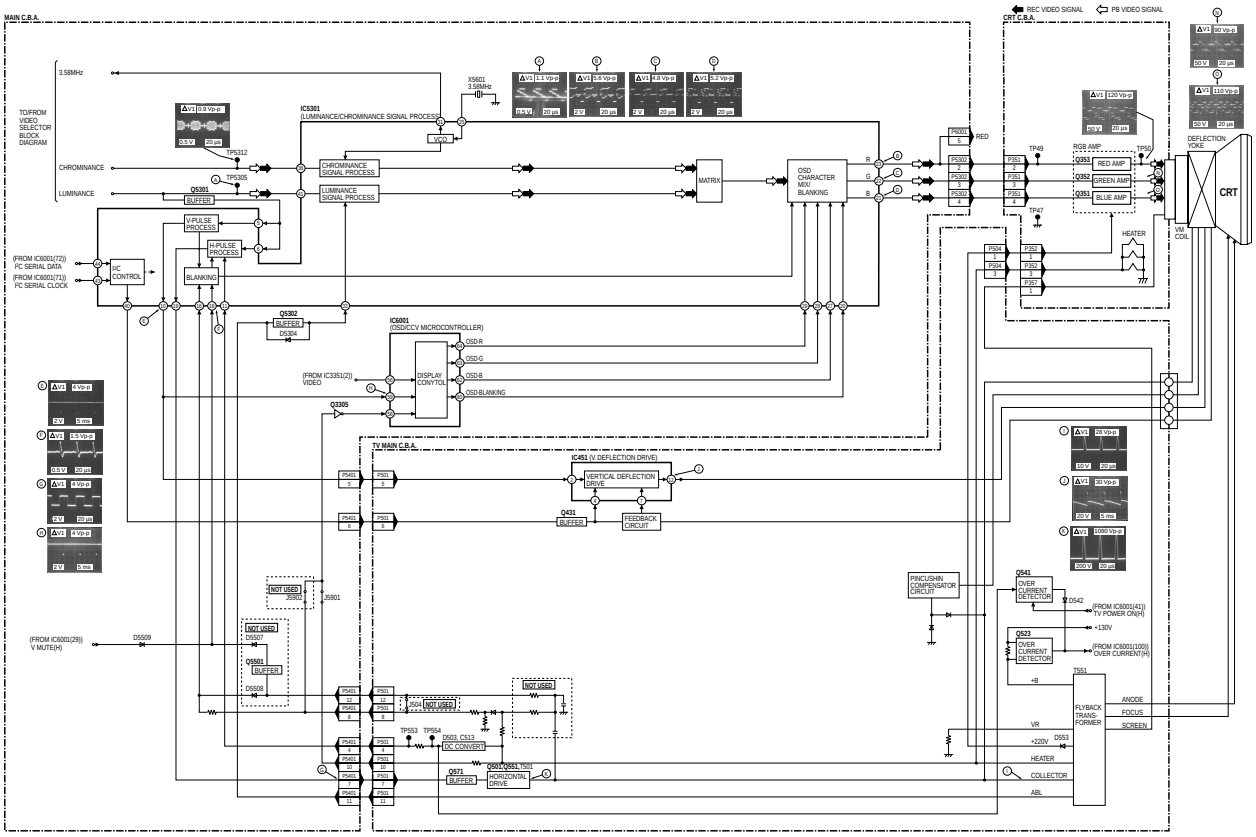
SYSTEM CONTROL BLOCK DIAGRAM
AG-520VDH

SERVO BLOCK DIAGRAM



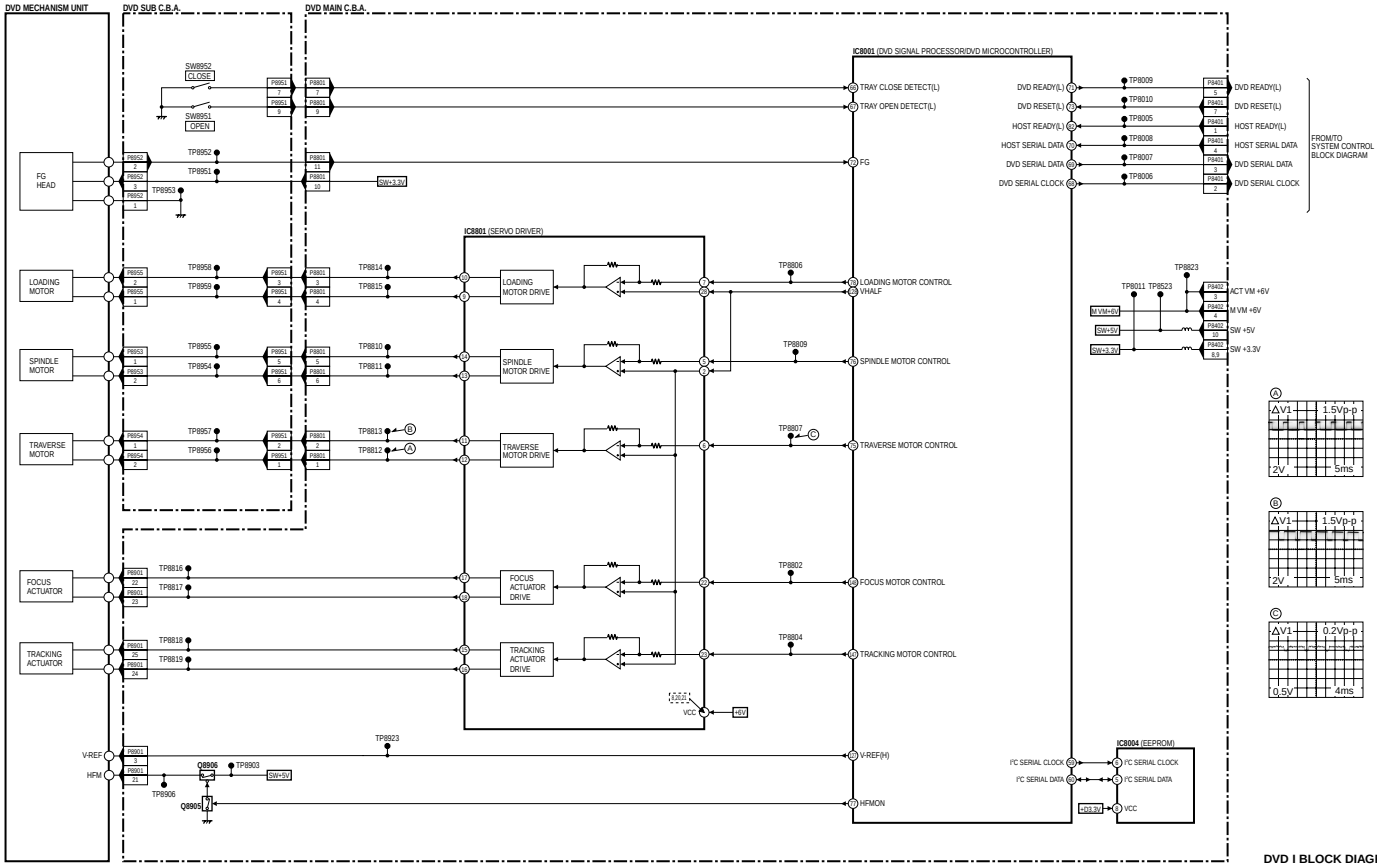
SERVO BLOCK DIAGRAM
AG-520VDH

TV Y/C PROCESS BLOCK DIAGRAM



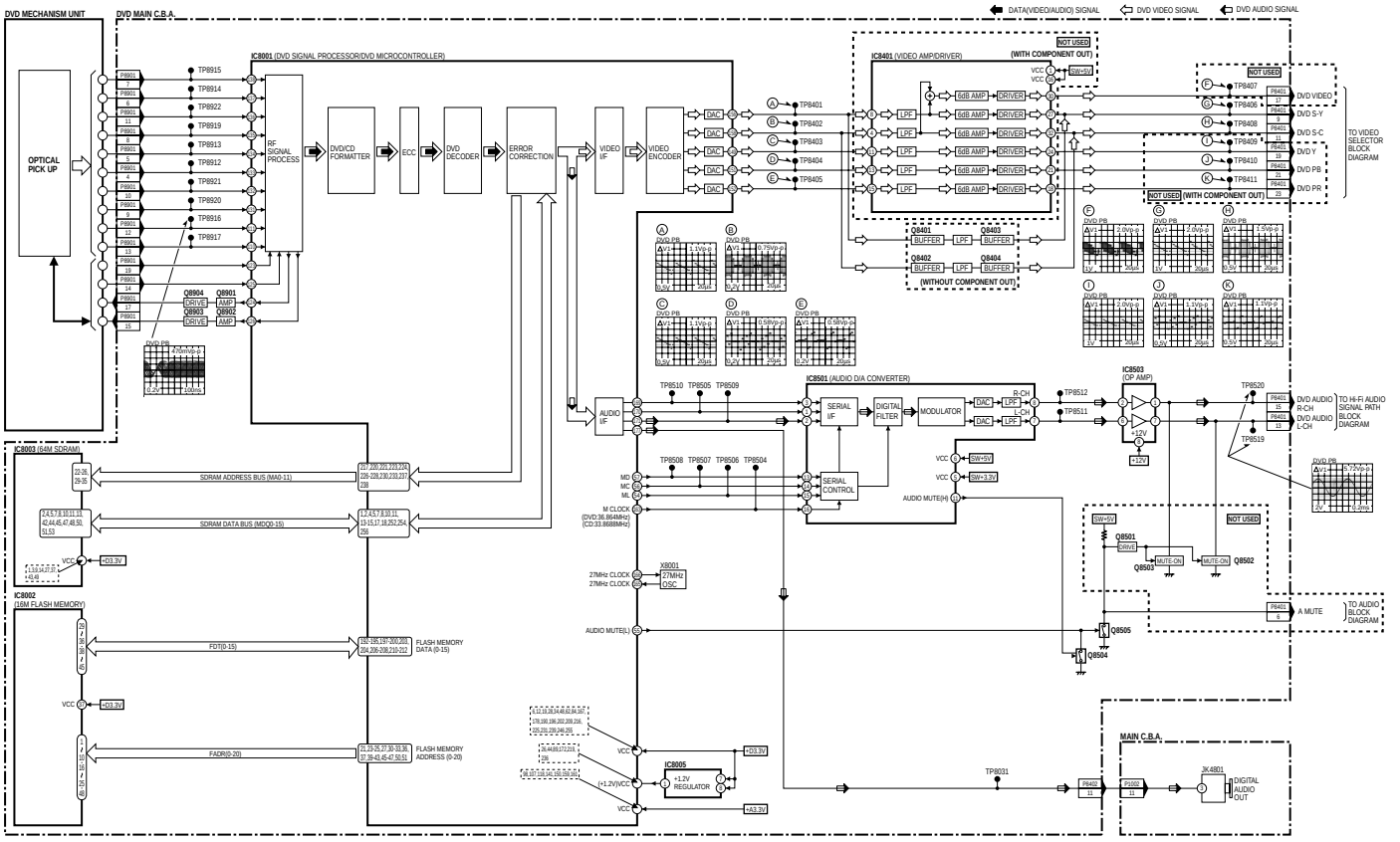
TV Y/C PROCESS BLOCK DIAGRAM
AG-520VDH

DVD I BLOCK DIAGRAM



DVD I BLOCK DIAGRAM
AG-520VDH

DVD II BLOCK DIAGRAM



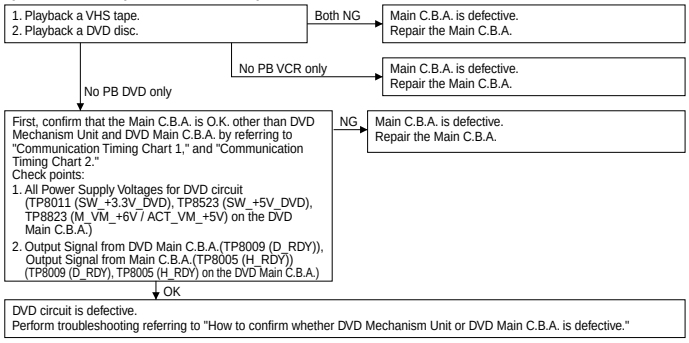
DVD II BLOCK DIAGRAM
AG-520VDH

Troubleshooting Hints

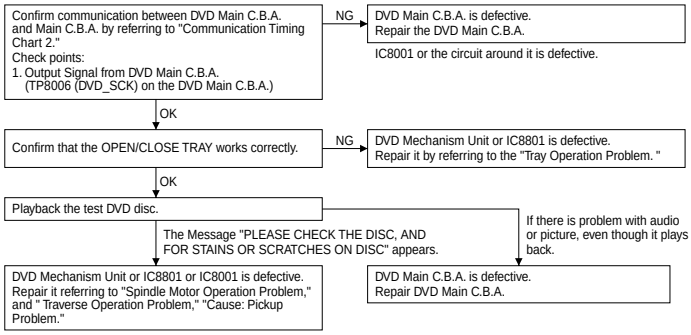
How to confirm whether DVD circuit or other circuits is defective.

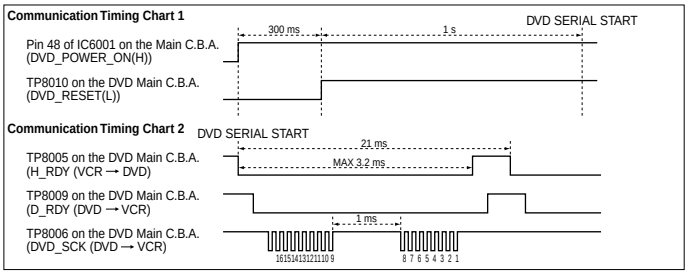
NOTE:
Host communication may not occur correctly between IC6001 on the Main C.B.A. and IC8001 on the DVD Main C.B.A. when there is a problem on the DVD Main C.B.A.
(Serial Data Communication failure between IC6001 and IC8001 within 30sec. IC6001 will switch automatically to VCR.)
(Check the VCR mode indicator and DVD mode indicator on the Front Light-up Indicators.)
Check the voltage during the 30 seconds during which the unit remains in DVD mode.

1) Confirm DVD operation and VCR operation


1. Playback a VHS tape.
2. Playback a DVD disc.
Both NG
Main C.B.A. is defective.
Repair the Main C.B.A.
No PB VCR only
Main C.B.A. is defective.
Repair the Main C.B.A.
No PB DVD only
First, confirm that the Main C.B.A. is O.K. other than DVD Mechanism Unit and DVD Main C.B.A. by referring to "Communication Timing Chart 1," and "Communication Timing Chart 2."
Check points:
1. All Power Supply Voltages for DVD circuit (TP8011 (SW_+3.3V_DVD), TP8523 (SW_+5V_DVD), TP8823 (M_VM_+6V / ACT_VM_+5V) on the DVD Main C.B.A.)
2. Output Signal from DVD Main C.B.A.(TP8009 (D_RDY)), Output Signal from Main C.B.A.(TP8005 (H_RDY)) (TP8009 (D_RDY), TP8005 (H_RDY) on the DVD Main C.B.A.)
NG
Main C.B.A. is defective.
Repair the Main C.B.A.
OK
DVD circuit is defective.
Perform troubleshooting referring to "How to confirm whether DVD Mechanism Unit or DVD Main C.B.A. is defective."

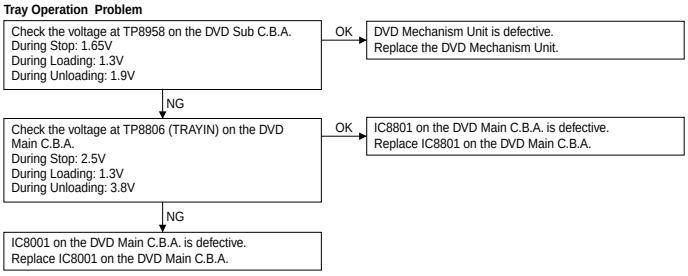
How to confirm whether DVD Mechanism Unit or DVD Main C.B.A. is defective.


Confirm communication between DVD Main C.B.A. and Main C.B.A. by referring to "Communication Timing Chart 2."
Check points:
1. Output Signal from DVD Main C.B.A. (TP8006 (DVD_SCK) on the DVD Main C.B.A.)
NG
DVD Main C.B.A. is defective.
Repair the DVD Main C.B.A.
IC8001 or the circuit around it is defective.
OK
Confirm that the OPEN/CLOSE TRAY works correctly.
NG
DVD Mechanism Unit or IC8801 is defective.
Repair it by referring to the "Tray Operation Problem. "
OK
Playback the test DVD disc.
The Message "PLEASE CHECK THE DISC, AND FOR STAINS OR SCRATCHES ON DISC" appears.
If there is problem with audio or picture, even though it plays back.
DVD Mechanism Unit or IC8801 or IC8001 is defective.
Repair it referring to "Spindle Motor Operation Problem," and " Traverse Operation Problem," "Cause: Pickup Problem."
DVD Main C.B.A. is defective.
Repair DVD Main C.B.A.


Communication Timing Chart 1
300 ms
1 s
DVD SERIAL START
Pin 48 of IC6001 on the Main C.B.A. (DVD_POWER_ON(H))
TP8010 on the DVD Main C.B.A. (DVD_RESET(L))
Communication Timing Chart 2
DVD SERIAL START
21 ms
MAX 3.2 ms
TP8005 on the DVD Main C.B.A. (H_RDY (VCR → DVD)
TP8009 on the DVD Main C.B.A. (D_RDY (DVD → VCR)
1 ms
TP8006 on the DVD Main C.B.A. (DVD_SCK (DVD → VCR)
16 15 14 13 12 11 10 9
8 7 6 5 4 3 2 1

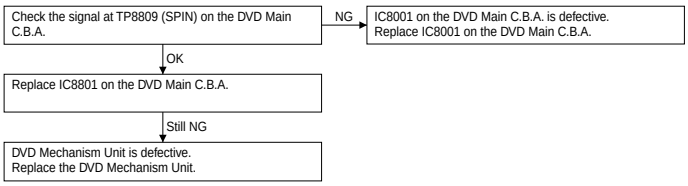
Troubleshooting Hints of DVD Mechanism Unit

Tray Operation Problem

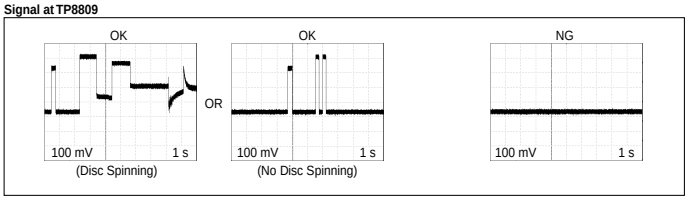

Check the voltage at TP8958 on the DVD Sub C.B.A.
During Stop: 1.65V
During Loading: 1.3V
During Unloading: 1.9V
OK
DVD Mechanism Unit is defective.
Replace the DVD Mechanism Unit.
NG
Check the voltage at TP8806 (TRAYIN) on the DVD Main C.B.A.
During Stop: 2.5V
During Loading: 1.3V
During Unloading: 3.8V
OK
IC8801 on the DVD Main C.B.A. is defective.
Replace IC8801 on the DVD Main C.B.A.
NG
IC8001 on the DVD Main C.B.A. is defective.
Replace IC8001 on the DVD Main C.B.A.

Spindle Motor Operation Problem

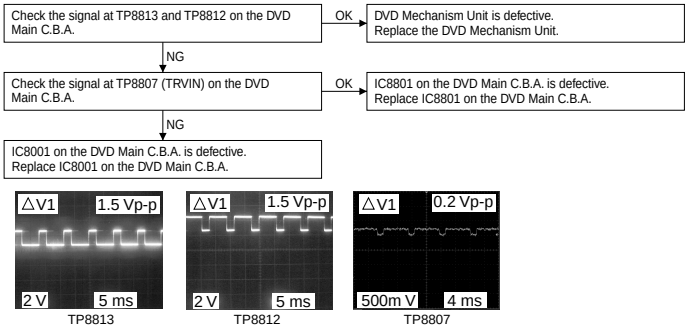
Note: Check the signal at TP8809 as soon as disc has been inserted. Otherwise, following waveform can not be monitored.


Check the signal at TP8809 (SPIN) on the DVD Main C.B.A.
NG
IC8001 on the DVD Main C.B.A. is defective.
Replace IC8001 on the DVD Main C.B.A.
OK
Replace IC8801 on the DVD Main C.B.A.
Still NG
DVD Mechanism Unit is defective.
Replace the DVD Mechanism Unit.

Signal at TP8809



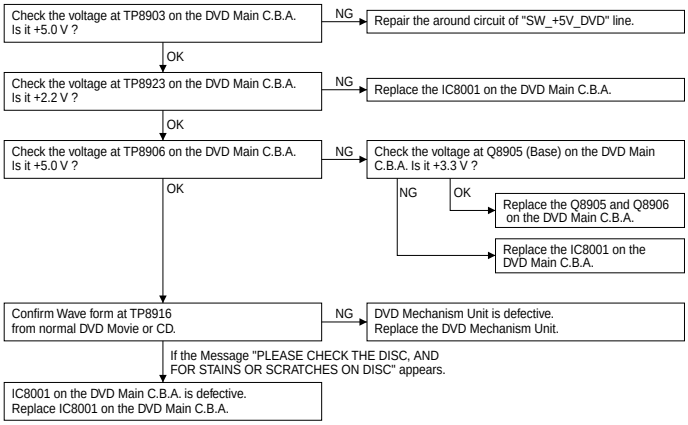
Traverse Operation Problem


Check the signal at TP8813 and TP8812 on the DVD Main C.B.A.
OK
DVD Mechanism Unit is defective.
Replace the DVD Mechanism Unit.
NG
Check the signal at TP8807 (TRVIN) on the DVD Main C.B.A.
OK
IC8801 on the DVD Main C.B.A. is defective.
Replace IC8801 on the DVD Main C.B.A.
NG
IC8001 on the DVD Main C.B.A. is defective.
Replace IC8001 on the DVD Main C.B.A.

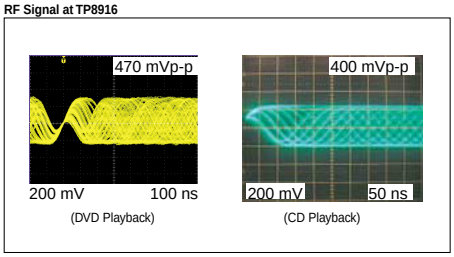
TP8813 TP8812 TP8807

Pickup Operation Problem

Note: Check the voltage during 10 to 20 seconds as soon as disc has been inserted.

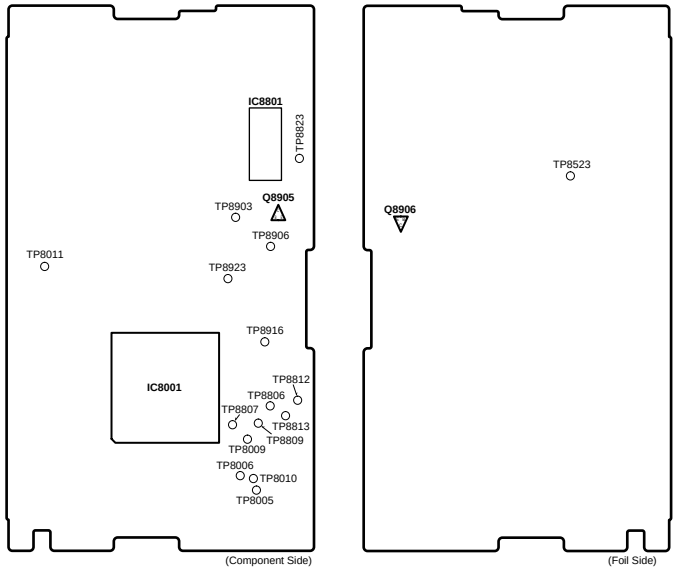

Check the voltage at TP8903 on the DVD Main C.B.A. Is it +5.0 V ?
NG
Repair the around circuit of "SW_+5V_DVD" line.
OK
Check the voltage at TP8923 on the DVD Main C.B.A. Is it +2.2 V ?
NG
Replace the IC8001 on the DVD Main C.B.A.
OK
Check the voltage at TP8906 on the DVD Main C.B.A. Is it +5.0 V ?
NG
Check the voltage at Q8905 (Base) on the DVD Main C.B.A. Is it +3.3 V ?
NG
OK
Replace the Q8905 and Q8906 on the DVD Main C.B.A.
Replace the IC8001 on the DVD Main C.B.A.
OK
Confirm Wave form at TP8916 from normal DVD Movie or CD.
NG
DVD Mechanism Unit is defective.
Replace the DVD Mechanism Unit.
If the Message "PLEASE CHECK THE DISC, AND FOR STAINS OR SCRATCHES ON DISC" appears.
IC8001 on the DVD Main C.B.A. is defective.
Replace IC8001 on the DVD Main C.B.A.

RF Signal at TP8916

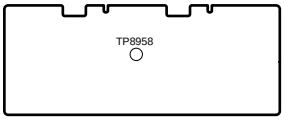


TEST POINTS LOCATION

DVD Main C.B.A.



DVD Sub C.B.A.



Test Point Information

● Test Point with a Test Pin.

○ Test Point with no Test Pin.

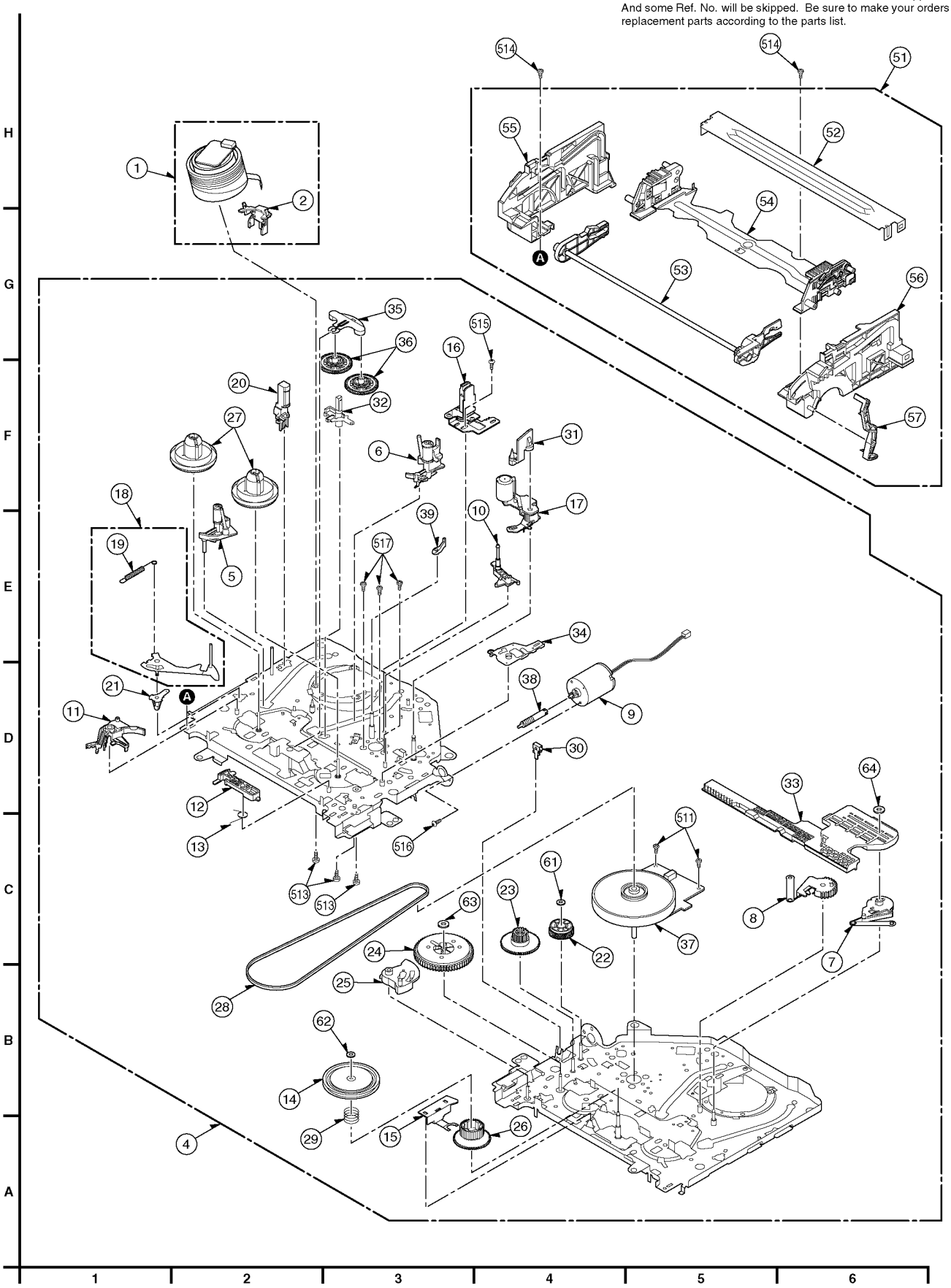
AG-520VDH

11 EXPLODED VIEWS

11.1. MECHANISM SECTION

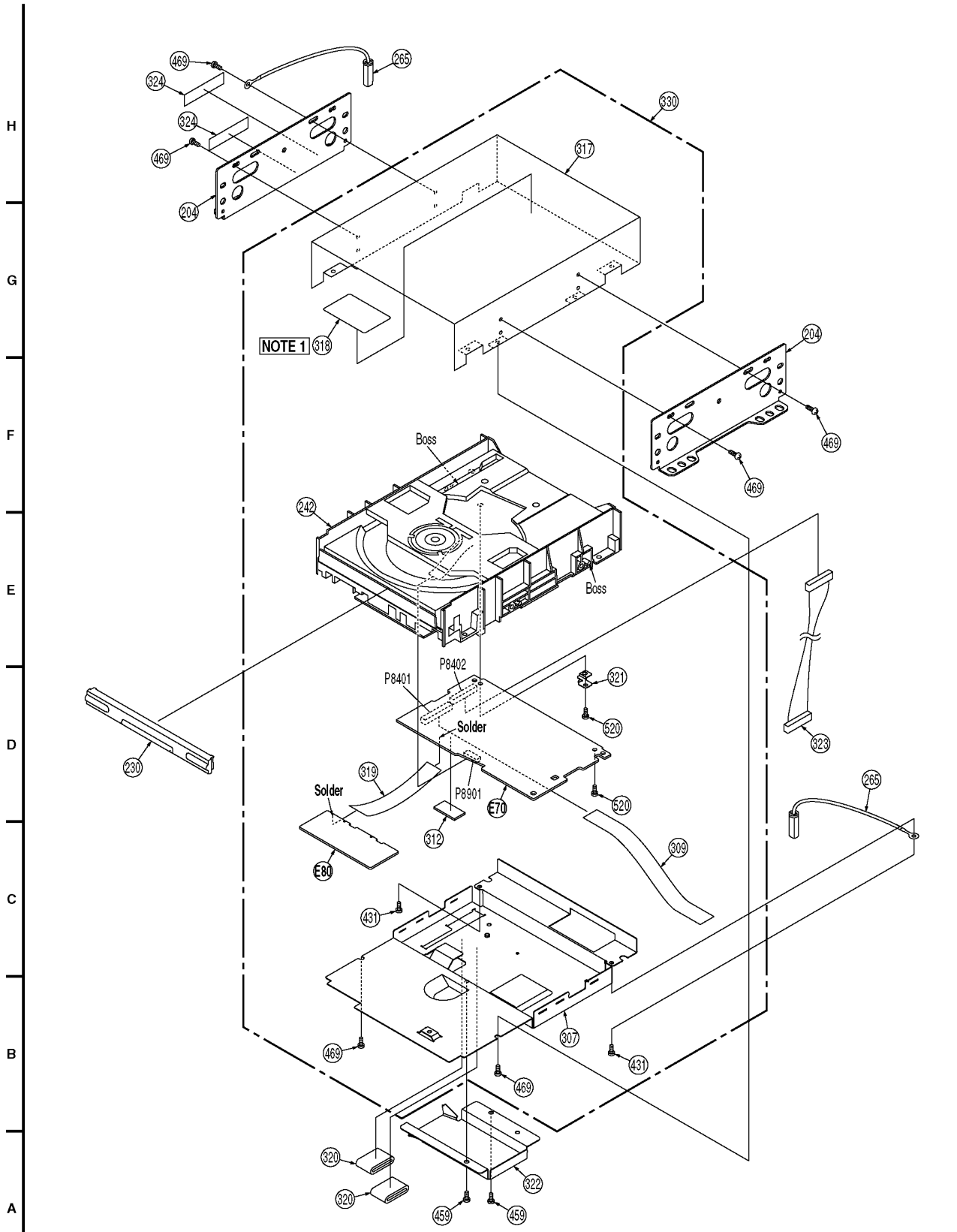
❶ MECHANISM SECTION

Note: Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied.
And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.



11.2. DVD SECTION

❷ DVD SECTION



NOTE 1: When replacing the DVD Frame (Ref. No. 317), be sure to place the Rating Label (Ref. No. 318) on it.

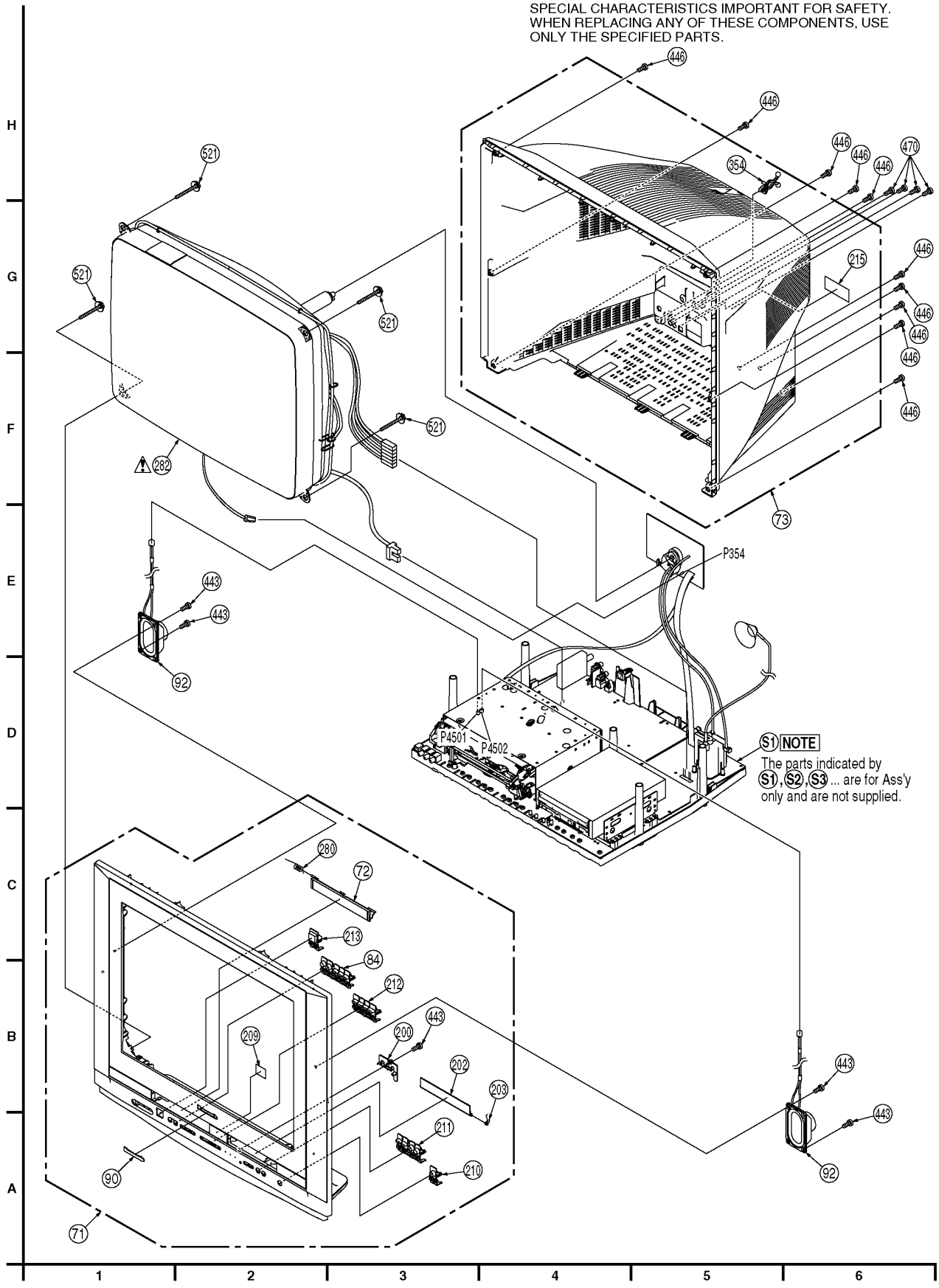
11.3. CHASSIS FRAME SECTION (1)

❸ CHASSIS FRAME SECTION (1)

Note: Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

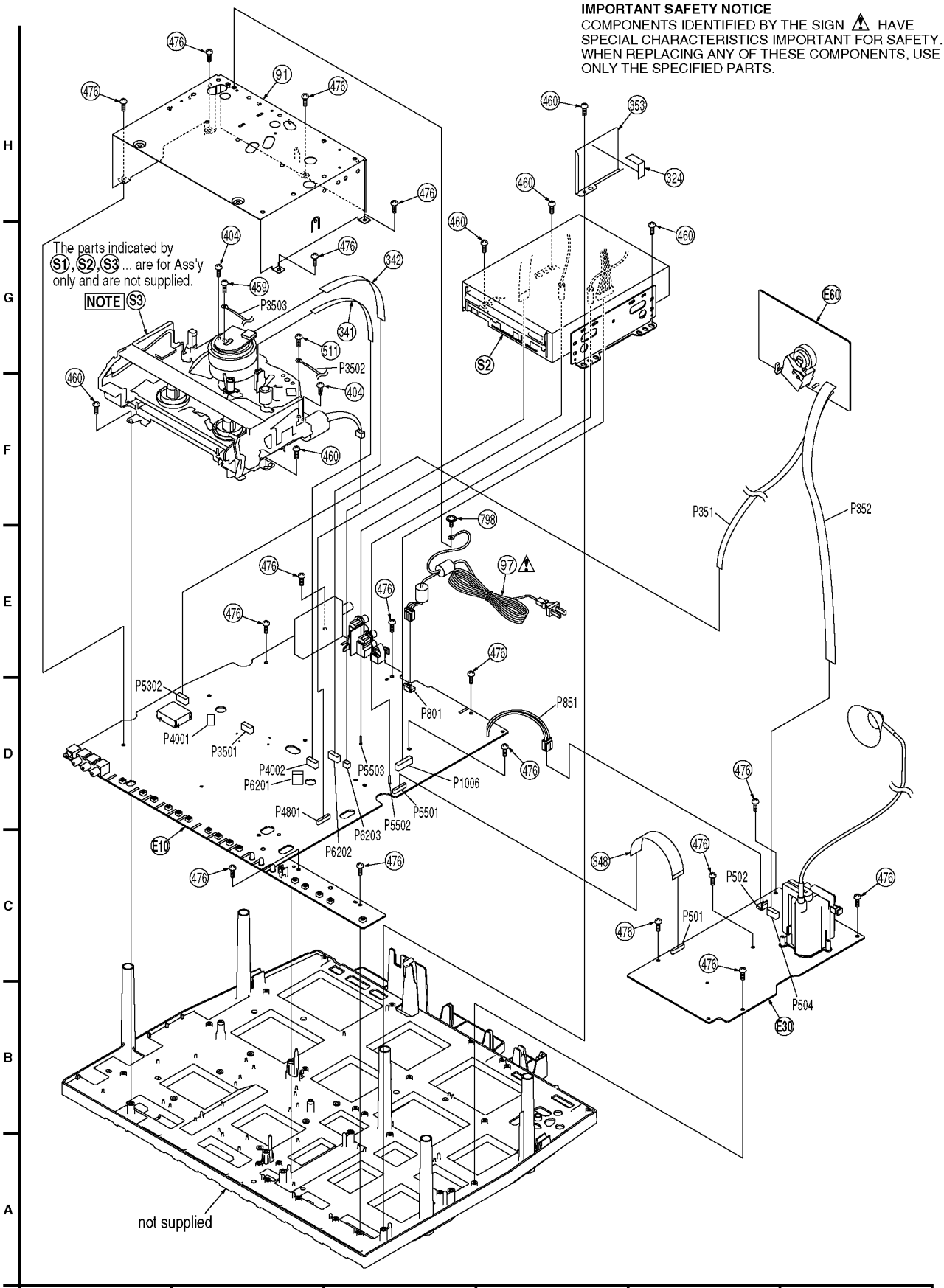
IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



11.4. CHASSIS FRAME SECTION (2)

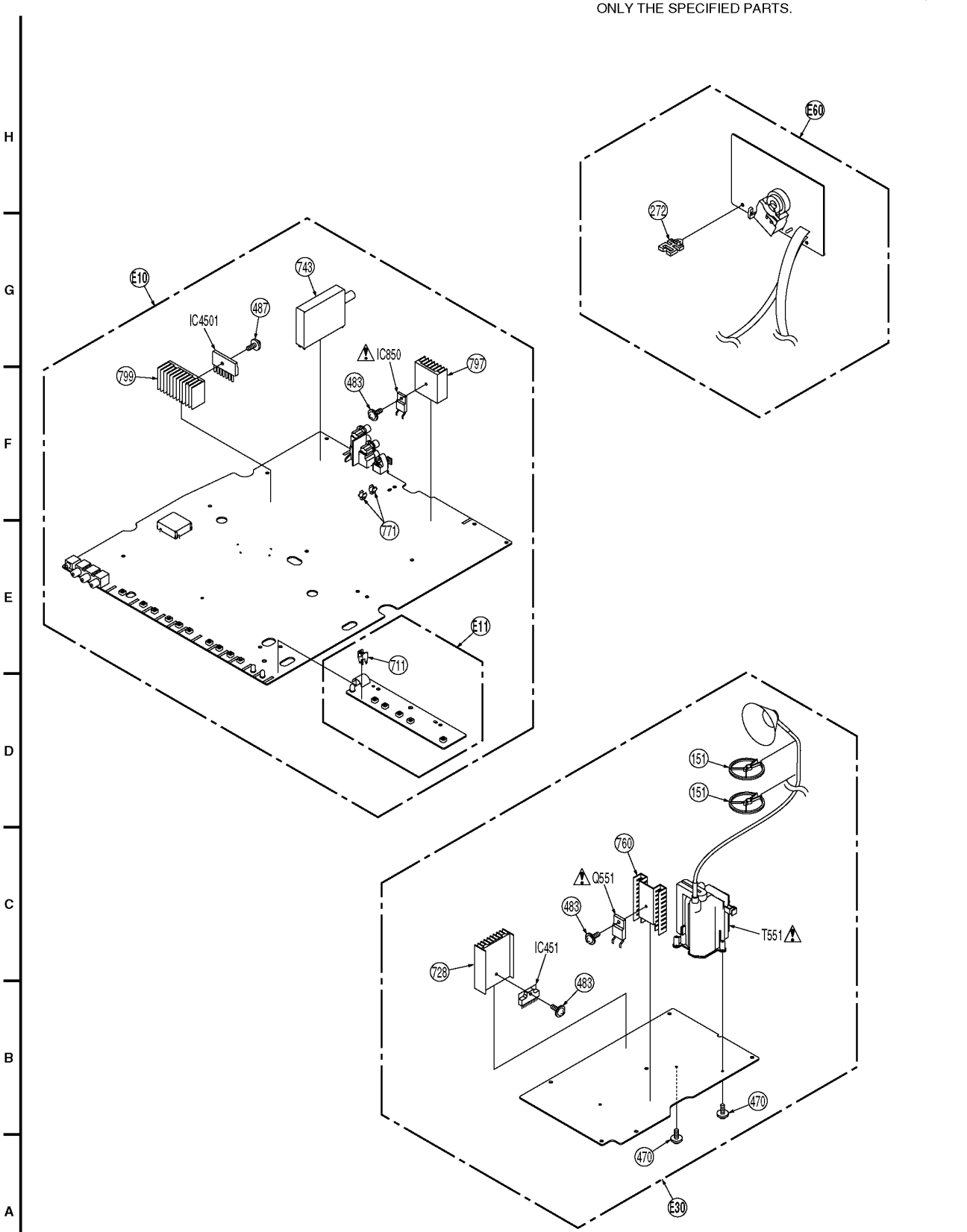
❹ CHASSIS FRAME SECTION (2)



11.5. CHASSIS FRAME SECTION (3)

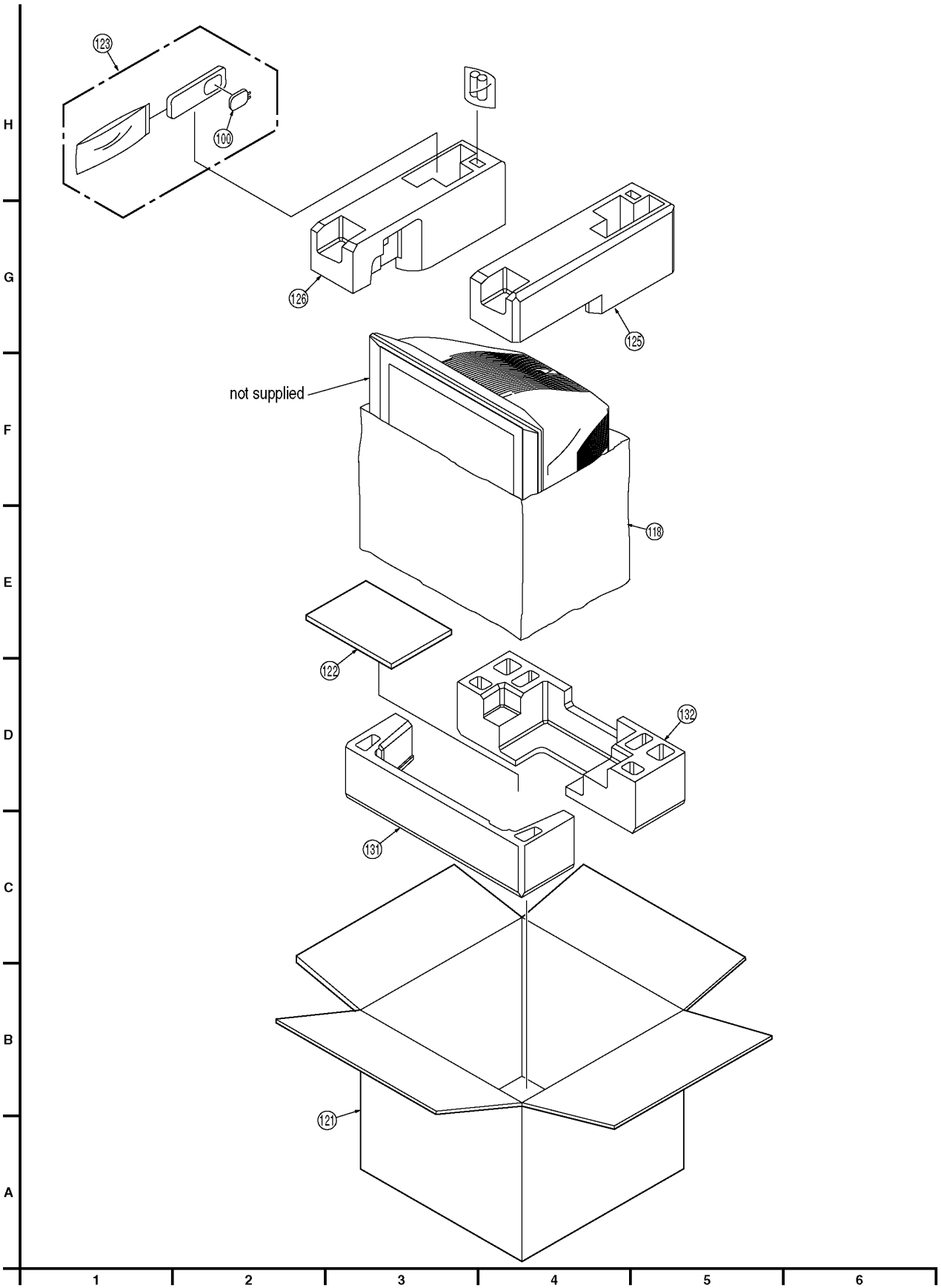
❺ CHASSIS FRAME SECTION (3)

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



11.6. PACKING PARTS AND ACCESORIES SECTION

❻ PACKING PARTS AND ACCESORIES SECTION



12 REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

12.1. REPLACEMENT NOTES

12.1.1. General Notes

1. Use only original replacement parts:

   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. **IMPORTANT SAFETY NOTICE**

   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. SPECIAL NOTE

   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

   “<R>” in Remarks column indicates recommended parts.

   “<M>” in Remarks column indicates needed in the periodical maintenance.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Definition of Parts supplier:

   a. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.

   b. Parts with mark "PSECI" in the Remarks column are supplied from PSECI.

   c. Parts with mark "SPC" in the Remarks column are supplied from Spare Parts Center of Panasonic AVC Company.

   d. Parts without mark in the Remarks column are supplied from PASC-NPC.

7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.

8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

12.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. The Mechanical Chassis Sub Ass’y (Ref. No. 4) consists of all the mechanical parts except the Cylinder Unit (Ref. No. 1), and the Cassette Up Ass’y (Ref. No. 51) and Cleaner Arm Unit (Ref. No.3).

   After replacing the Mechanical Chassis Sub Ass’y, be sure to perform “TAPE INTERCHANGEABILITY ADJUSTMENT” in Service Manual for R4-Mechanism - Chassis - for - PV-Model (Order No. MKE0401000C1).

3. The Infrared Remote Control Unit (Ref. No. 123) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit. However, the battery cover is available separately as a replacement part.

4. When replacing the DVD Frame (Ref. No. 317), be sure to place the Rating Label (Ref. No. 318) on it.

5. When replacing the DVD Mechanism Unit (Ref. No. 242) or the DVD Frame (Ref. No. 317), be sure to place the Cabinet Label (Ref. No. 253) on it.

12.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

   All resistors are in Ω, K = 1,000 Ω, M = 1,000 kΩ.

2. Abbreviation

RTL:	Retention Time Limited This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
NR:	Non Repairable Board Ass´y
MGF CHIP:	Metal Glaze Film Chip
C CHIP:	Ceramic Chip
COMPLX CMP:	Complex Component
W FLMPRF:	Wirewound Flameproof
C.B.A.:	Circuit Board Assembly
P.C.B.:	Printed Circuit Board
E.S.D.:	Electrostatically Sensitive Devices

3. When replacing 0 Ω resistor, a wire can be substituted for it.

4. Since the UHF/VHF TUNER/TV DEMODULATOR UNIT (Ref. No. 743) has already been pre-adjusted at the factory, do not try to adjust the UHF/VHF TUNER/TV DEMODULATOR UNIT. The UHF/VHF TUNER/TV DEMODULATOR UNIT replacement part is available as a complete assembly unit only.

5. EEP ROM IC (IC6004) replacement note:

   There are 2 types of EEPROM IC (IC6004) used on the Main C.B.A. (DIP TYPE and SOP TYPE). However, these are same reliability, please refer to "MAIN C.B.A." in CIRCUIT BOARD LAYOUT.

12.2. MECHANICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. **Parts with mark "PSEC" in the Remarks column are supplied from PSEC.**
2. **Parts with mark "PSECI" in the Remarks column are supplied from PSECI.**
3. **Parts with mark "SPC" in the Remarks column are supplied from Spare Parts Center of Panasonic AVC Company.**
4. **Parts without mark in the Remarks column are supplied from PASC-NPC.**

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSVD0010	CYLINDER KIT	1 <R> <M>
2	VMD4983	FPC HOLDER	1
4	LSXY0543	MECHANICAL CHASSIS SUB ASS´Y	1 RTL
5	VXA7105	SUPPLY SHAFT HOLDER UNIT	1 <R> <M>
6	VXA7106	TAKE UP SHAFT HOLDER UNIT	1 <R> <M>
7	VXL3107	SUPPLY LOADING ARM UNIT	1
8	VXL3108	TAKE UP LOADING ARM UNIT	1
9	VEM0796	LOADING MOTOR UNIT	1 <R> <M>
10	VXL3110	P5 ARM UNIT	1 <R>
11	VXL3112	SUPPLY BRAKE ARM UNIT	1
12	VXL3121	TAKE UP BRAKE ARM UNIT	1 <R> <M>
13	VMB3548	TAKE UP BRAKE SPRING	1
14	VXP2133	CENTER CLUTH UNIT	1
15	VXL3124	CHANGING LEVER UNIT	1
16	LSEH0012	AC HEAD UNIT	1 <R> <M>
17	VXL3109	PINCH ARM UNIT	1 <R> <M>
18	VXL3111	TENSION ARM UNIT	1 <R> <M>
19	VMB3547	TENSION SPRING	1
20	L1AG00000011	FE HEAD	1
21	VDB1431	TENSION ARM BOSH	1
22	VXP2168	TORQUE CLUTCH UNIT	1
23	VDG1510	INTERMEDIATE GEAR	1
24	VDG1511	MAIN CAM GEAR	1
25	VXA7311	SECTOR GEAR UNIT	1
26	VDG1514	CHANGE GEAR	1
27	VDR0372	REEL TABLE	1 <R> <M>
28	VDV0391	CAPSTAN BELT	1 <R> <M>
29	VMB3550	CHANGING GEAR SPRING	1
30	VMD4987	WORM BEARING	1
31	VMD4252	OPENER PIECE	1
32	VMD4253	LED PRISM	1
33	VML3624	MAIN LEVER	1
34	VML3626	PINCH CHARGE ARM	1
35	VML3632	IDLER ARM	1
36	VDG1512	IDLER GEAR	1
37	VEM0800	CAPSTAN ASS´Y	1 <R> <M>
38	VDG1637	WORM GEAR	1
39	VMX3377	P4 CAP	1
51	LSXY0541	CASSETTE UP ASS´Y	1 <R>
52	VMA0L25	TOP PLATE	1 <R>
53	VXL3160	MAIN SHAFT UNIT	1
54	VXA7110	CASSETTE HOLDER UNIT	1 <R>
55	VMD4255	SIDE PLATE L	1
56	VMD4985	SIDE PLATE R	1
57	LSML0367	OPENER LEVER 2	1
61	VMX2208	CUT WASHER,STEEL	1
62	VMX3196	CUT WASHER,STEEL	1
63	VMX2699	CUT WASHER,STEEL	1
64	VMX3475	SNAP WASHER	1
71	LSYY0328	FRONT CABINET ASS´Y	3
72	LSYY0330	CASSETTE DOOR-LID UNIT	3 <R>
73	LSYY0331	REAR COVER UNIT	3
84	LSGU0707	2-3 BUTTON	3
90	TBM4G3013	BADGE,ABS RESIN	3
91	LSXA0674	TOP SHIELD PLATE ASS´Y	4
92	LSXY0821	SPEAKER UNIT	3
97	LSJA0568	AC CORD W/PLUG,120V	4 ⚠ <R>
100	EUR77EC2406A	BATTERY COVER	6 <R>
118	LPE64005A	BAG,POLYETHYLENE	6
121	LSPG2056	PACKING CASE,PAPER	6 <R>
122	LSQF0967	FAN BAG	6 <R>
123	EUR7724020R	INFRARED REMOTE CONTROL UNIT	6 <R>
125	LSPN0554	TOP CUSHION RIGHT,STYROFOAM	6 <R>
126	LSPN0553	TOP CUSHION LEFT,STYROFOAM	6 <R>
131	LSPN0555	BOTTOM CUSHION FRONT,STYROFOAM	6 <R>
132	LSPN0556	BOTTOM CUSHION REAR,STYROFOAM	6 <R>
151	TMM77408	CLAMPER	5
200	LSGL0439	PANEL LIGHT	3
202	LSKF0646	DVD DISK DOOR-LID UNIT	3
203	LSMB0170	DVD CASSETTE DOOR SPRING	3
204	LSMA0800	DVD MOUNT ANGLE	2
209	VMFS0213	SHEET,NYLON+RAYON	3
210	LSGU0709	OPEN BUTTON L	3
211	LSGU0713	2-2 BUTTON	3
212	LSGU0715	4 BUTTON	3
213	LSGU0711	POWER BUTTON	3
215	LSQL1623	DOLBY & DTS CAUTION LABEL	3
230	LSGP0381	TRAY COVER	2
242	LSXK0227	DVD UNIT	2 PSECI
265	VEKS9427	GROUNDING CABLE W/PLUG	2
272	TMM77412	CLAMPER	5
280	LSMB0230	CASSETTE DOOR SPRING	3
282	LSEQ0769	COLOR PICTURE TUBE UNIT	3 ⚠
307	LSMA0717	SHIELD CASE A	2 PSECI
309	LSJW0097	FLEXIBLE FLAT CABLE W/OUT PLUG	2 PSECI
312	LMMY0030	HEAT SHEET,SI	2 PSECI
317	LMMK0201	DVD FRAME	2 PSECI
318	LSQL1857	RATING LABEL	2 PSECI
319	LSJW0091	FLEXIBLE FLAT CABLE W/OUT PLUG	2 PSECI
320	J0KD00000094	FILTER FOR EMI / EMC (CORES)	2
321	LSJR0011	DVD GROUNDING PLATE	2 PSECI
322	LSSC0780	FFC SHIELD CASE	2
323	VEKS9480-FE	CONNECTOR CABLE W/PLUG	2
324	LSMF0343	SHEET	2,4
330	LSVQ0089	DVD BLOCK UNIT	2 PSECI
341	LSJW0060	FLEXIBLE FLAT CABLE W/OUT PLUG	4
342	LSJW0061	FLEXIBLE FLAT CABLE W/OUT PLUG	4
348	LSJW0092	FLEXIBLE FLAT CABLE W/OUT PLUG	4
353	LSSC0794	SHIELD PLATE	4
354	TMM7464-1R	CLAMPER	3
404	VHDS0472-FJ	SCREW,STEEL	4
431	XTV26+6FFJ	SCREW,STEEL	2 PSECI
443	XTV4+12AFJ	TAPPING SCREW,STEEL	3
446	XTV4+16AFJ	TAPPING SCREW,STEEL	3
459	XTV3+5FFJ	TAPPING SCREW,STEEL	2,4
460	XTN4+12AFJ	TAPPING SCREW,STEEL	4
469	XSN3+6FJ	SCREW,STEEL	2
470	XTV3+10GFJ	TAPPING SCREW,STEEL	3,5
476	XTV3+12GFJ	TAPPING SCREW,STEEL	4
483	XYN3+F10FJ	SCREW W/WASHER,STEEL	5
487	XYN3+J8FJ	SCREW W/WASHER,STEEL	5

Ref. No.	Part No.	Part Name & Description	Remarks
511	XTV26+5FFJ	TAPPING SCREW,STEEL	1,4
513	VHD1117	SCREW,STEEL	1
514	XTV26+8FFJ	TAPPING SCREW,STEEL	1
515	VHD1044	SCREW,STEEL	1
516	XYN3+C4FJ	SCREW W/WASHER,STEEL	1
517	XTN26+7JFJ	SCREW,STEEL	1
520	XTV26+6JFJ	SCREW,STEEL	2 PSECI
521	LHT60002Y-FJ	SCREW,STEEL	3
711	PNA4611M00HC	INFRARED RECEIVER UNIT	5
728	LUS63008A	HEAT SINK	5
743	J3AAABB00002	TUNER,UHF/VHF NR	5
760	TUC77628	HEAT SINK	5
771	EYF52BCY	FUSE HOLDER	5
797	LSSC0529	HEAT SINK	5
798	XYE4+CF8FJ	SCREW W/WASHER,STEEL	4
799	LSSC0793	HEAT SINK	5
E10	LSEP2217B	MAIN C.B.A.	4,5 RTL <R>
E11	LSEP2219A	OPERATION C.B.A.	5 RTL <R>
E30	LSEP2218B	DEFLECTION C.B.A.	4,5 RTL <R>
E60	LRP63022F	CRT C.B.A.	4,5 RTL
E70	LSUQ0079	DVD MAIN C.B.A.	2 RTL PSECI <R>
E80	LSEP2187A	DVD SUB C.B.A.	2 RTL PSECI <R>

SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
	VFMS0003H6	VHS ALIGNMENT TAPE	PSEC <R>
	VFKS0081	GREASE	PSEC
	VFK0329	POST ADJUSTMENT DRIVER	PSEC <R>
	VFK27	HEAD CLEANING STICK	PSEC <R>
	VFK0330	H-POSITION ADJUSTMENT DRIVER	PSEC <R>
	VFK1301	SILICONE GREASE	PSEC
	DVDT-S01	DVD TEST DISC	SPC
	DVDT-S15	DVD TEST DISC	SPC
	LSUA0047	EXTENSION CABLE 13P	PSEC
	LSUA0048	EXTENSION CABLE 16P	PSEC

12.3. ELECTRICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. **Parts with mark "PSECI" in the Remarks column are supplied from PSECI.**
2. **Parts without mark in the Remarks column are supplied from PASC-NPC.**

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSEP2217B	MAIN C.B.A.	E.S.D. RTL <R>
E11	LSEP2219A	OPERATION C.B.A.	RTL <R>
E30	LSEP2218B	DEFLECTION C.B.A.	RTL <R>
E60	LRP63022F	CRT C.B.A.	RTL <R>
E70	LSUQ0079	DVD MAIN C.B.A.	E.S.D. RTL PSECI <R>
E80	LSEP2187A	DVD SUB C.B.A.	RTL PSECI <R>

12.3.1. MAIN C.B.A.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC850	C5HABZZ00109	IC, LINEAR	⚠ <R>
IC1001	C5HABZZ00132	IC, LINEAR	⚠ <R>
IC1002	CNC1S101R1KT	IC, LINEAR	⚠ <R>
or IC1002	CNC1S101S1KT	IC, LINEAR	⚠ <R>
IC1003	C0DAEMB00004	IC, LINEAR	<R>
IC1004	C0CBCDD00012	IC, LINEAR	<R>
IC1005	C0DBZHG00012	IC, LINEAR	<R>
IC1006	C0DBZGG00010	IC, LINEAR	<R>
IC1201	C0DBZJG00006	IC, LINEAR	<R>
IC1202	C0DAZKH00002	IC, LINEAR	<R>
IC1301	C0DBZJG00007	IC, LINEAR	<R>
IC1302	C0CBCDC00052	IC, LINEAR	<R>
IC3001	C1AB00002002	IC, LINEAR	<R>
IC4201	AN3663FBP-V	IC, LINEAR	<R>
IC4501	C1BA00000367	IC, LIENAR	<R>
IC4601	C1BB00000815	IC, LINEAR	<R>
IC5301	AN15167A-VT	IC, LINEAR	<R>
IC5352	C1AB00001682	IC, LINEAR	<R>
or IC5352	C1AB00001519	IC, LINEAR	<R>
IC5651	C1AB00002241	IC, LINEAR	<R>
IC5653	C1AB00001777	IC, LINEAR	<R>
IC6001	C2CBJG000551	IC, 16BIT MICROCONTROLLER	E.S.D. <R>
IC6002	B3NAA0000049	PHOTO INTERRUPUTER	<R>
IC6003	B3NAA0000049	PHOTO INTERRUPUTER	<R>
IC6004	LSSK0063	IC, 2K EEP ROM	E.S.D. <R>
IC6005	C0EBJ0000080	IC, CMOS STANDARD LOGIC	E.S.D.
or IC6005	C0EBJ0000099	IC, CMOS STADNARD LOGIC	E.S.D. <R>
or IC6005	C0EBJ0000236	IC, CMOS STANDARD LOGIC	E.S.D. <R>
IC6201	C1AB00001767	IC, LINEAR	<R>

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q591	2SC3311AHA	TRANSISTOR SI NPN	
Q801	2SC3311ARA	TRANSISTOR SI NPN	
Q1201	XP0431100L	TRANSISTOR COMPLX CMP SI NPN/PNP CHIP	
Q1206	B1BADC000001	TRANSISTOR SI NPN	
Q3001	UNR221300L	TRANSISTOR SI NPN CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
or Q3001	B1GBCFNN0004	TRANSISTOR SI NPN CHIP	
Q3002	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q3002	B1ABCC000004	TRANSISTOR SI NPN CHIP	
or Q3002	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q3002	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q3003	2SB0709A0L	TRANSISTOR SI PNP CHIP	
or Q3003	B1ADCC000004	TRANSISTOR SI PNP CHIP	
or Q3003	B1ADCF000001	TRANSISTOR SI PNP CHIP	
or Q3003	B1ADCF000077	TRANSISTOR SI PNP CHIP	
Q3005	UNR221100L	TRANSISTOR SI NPN CHIP	
or Q3005	B1GBCFJJ0002	TRANSISTOR SI NPN CHIP	
Q3006	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q3006	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3305	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q3305	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4081	UNR211100L	TRANSISTOR SI PNP CHIP	
or Q4081	B1GDCFJJ0002	TRANSISTOR SI PNP CHIP	
Q4082	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q4082	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4083	2SD1819AHL	TRANSISTOR SI NPN CHIP	
or Q4083	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q4101	2SD0601ARL	TRANSISTOR SI NPN CHIP	
Q4201	UNR511500L	TRANSISTOR SI PNP CHIP	
or Q4201	B1GDCFJA0017	TRANSISTOR SI PNP CHIP	
or Q4201	B1GDCFJJ0025	TRANSISTOR SI PNP CHIP	
Q4203	2SD132800L	TRANSISTOR SI NPN CHIP	
Q4204	2SD132800L	TRANSISTOR SI NPN CHIP	
Q5301	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5301	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5301	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5302	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5302	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5651	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5651	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5651	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5652	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5652	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5653	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q5653	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q5653	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q5657	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5657	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5658	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q5658	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q5659	UNR221200L	TRANSISTOR SI NPN CHIP	
or Q5659	B1GBCFLL0002	TRANSISTOR SI NPN CHIP	
Q5901	2SD225900A	TRANSISTOR SI NPN	
Q6001	2SB0709A0L	TRANSISTOR SI PNP CHIP	
or Q6001	B1ADCC000004	TRANSISTOR SI PNP CHIP	
or Q6001	B1ADCF000001	TRANSISTOR SI PNP CHIP	
or Q6001	B1ADCF000077	TRANSISTOR SI PNP CHIP	
Q6002	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q6002	B1ABCC000004	TRANSISTOR SI NPN CHIP	
or Q6002	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q6002	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q6003	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q6003	B1ABCC000004	TRANSISTOR SI NPN CHIP	
or Q6003	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q6003	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q6005	2SB0709A0L	TRANSISTOR SI PNP CHIP	
or Q6005	B1ADCC000004	TRANSISTOR SI PNP CHIP	
or Q6005	B1ADCF000001	TRANSISTOR SI PNP CHIP	
or Q6005	B1ADCF000077	TRANSISTOR SI PNP CHIP	
Q6006	2SD0601A0L	TRANSISTOR SI NPN CHIP	
or Q6006	B1ABCC000004	TRANSISTOR SI NPN CHIP	
or Q6006	B1ABCF000011	TRANSISTOR SI NPN CHIP	
or Q6006	B1ABCF000106	TRANSISTOR SI NPN CHIP	
Q6009	VEKS9440	PHOTO SENSOR ASS´Y	
Q6010	VEKS9440	PHOTO SENSOR ASS´Y	
Q7031	2SB0709A0L	TRANSISTOR SI PNP CHIP	
or Q7031	B1ADCC000004	TRANSISTOR SI PNP CHIP	
or Q7031	B1ADCF000001	TRANSISTOR SI PNP CHIP	
or Q7031	B1ADCF000077	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D591	D4DDD3R00002	THERMISTOR	⚠
or D591	D4DDD3R00003	THERMISTOR	⚠
D592	MA2C16700E	DIODE SI	
or D592	B0AAEL000001	DIODE SI	
D801	ERZV10V361CS	SURGE ABSORBER	⚠
or D801	D4EAA3610001	SURGE ABSORBER	⚠
D803	MA2C16700E	DIODE SI	
or D803	B0AAEL000001	DIODE SI	
D804	B0AAKT000010	DIODE SI	⚠
or D804	B0EAKT000030	DIODE SI	⚠
D805	B0AAKT000010	DIODE SI	⚠
or D805	B0EAKT000030	DIODE SI	⚠
D806	B0AAKT000010	DIODE SI	⚠
or D806	B0EAKT000030	DIODE SI	⚠
D807	B0AAKT000010	DIODE SI	⚠
or D807	B0EAKT000030	DIODE SI	⚠
D856	B0HAGP000012	DIODE SI	
D857	B0HAGP000012	DIODE SI	
or D857	B0HAJL000001	DIODE SI	
D858	B0HAGP000012	DIODE SI	
or D858	B0HAJL000001	DIODE SI	
D859	B0JANK000003	DIODE SI CHIP	
D860	B0EALR000005	DIODE SI	
D861	MAZ2270	DIODE ZENER 27V	⚠
D863	B0HAHP000014	DIODE SI	
or D863	B0HAJP000007	DIODE SI	
or D863	B0HAMP000061	DIODE SI	
D864	B0HAMM000105	DIODE SI	
or D864	B0HAML000013	DIODE SI	
or D864	B0HAML000014	DIODE SI	
D865	B0HAMM000105	DIODE SI	
or D865	B0HAML000013	DIODE SI	
or D865	B0HAML000014	DIODE SI	
D1001	B0EDKT000009	DIODE SI	⚠

Ref. No.	Part No.	Part Name & Description	Remarks
D1002	B0HAMM000083	DIODE SI	
D1003	MAZ40470MF	DIODE ZENER 4.7V	
or D1003	B0BA4R600003	DIODE ZENER 4.7V	
D1004	B0HAMM000083	DIODE SI	
D1005	B0HAMM000083	DIODE SI	
D1006	B0HAMM000083	DIODE SI	
D1008	B0HAMM000083	DIODE SI	
D1009	B0HAMM000083	DIODE SI	
D1010	B0JANK000003	DIODE SI CHIP	
D1011	B0JANK000003	DIODE SI CHIP	
D1012	B0JAGE000001	DIODE SI	
or D1012	B0JAMD000012	DIODE SI	
D1013	B0JAME000079	DIODE SI	
or D1013	B0JAME000049	DIODE SI	
or D1013	B0JANE000028	DIODE SI	
D1015	B0JAME000079	DIODE SI	
or D1015	B0JAME000049	DIODE SI	
or D1015	B0JANE000028	DIODE SI	
D1016	B0HAHP000014	DIODE SI	
or D1016	B0HAJP000007	DIODE SI	
or D1016	B0HAMP000061	DIODE SI	
D1017	B0HAMM000083	DIODE SI	
D1021	B0BB17000006	DIODE ZENER 17V	
D1022	B0HAMM000105	DIODE SI	
or D1022	B0HAML000013	DIODE SI	
or D1022	B0HAML000014	DIODE SI	
D1201	B0AAML000001	DIODE SI	
or D1201	B0EAKL000008	DIODE SI	
D1202	B0AAML000001	DIODE SI	
or D1202	B0EAKL000008	DIODE SI	
D4209	MA2C165001VT	DIODE SI	
or D4209	B0AACK000004	DIODE SI	
D4210	MA2C165001VT	DIODE SI	
or D4210	B0AACK000004	DIODE SI	
D4507	MA2C165001VT	DIODE SI	
or D4507	B0AACK000004	DIODE SI	
D4508	MA2C165001VT	DIODE SI	
or D4508	B0AACK000004	DIODE SI	
D4591	MAZ42400MF	DIODE ZENER 24V	
D4592	MAZ42400MF	DIODE ZENER 24V	
D4593	MAZ42400MF	DIODE ZENER 24V	
D4594	MAZ42400MF	DIODE ZENER 24V	
D4601	B0AAML000001	DIODE SI	
or D4601	B0EAKL000008	DIODE SI	
D4710	MAZ40510MF	DIODE ZENER 5.1V	
or D4710	B0BA5R100022	DIODE ZENER 5.1V	
or D4710	B0BA5R200015	DIODE ZENER 5.2V	
D4711	MAZ40510MF	DIODE ZENER 5.1V	
or D4711	B0BA5R100022	DIODE ZENER 5.1V	
or D4711	B0BA5R200015	DIODE ZENER 5.2V	
D4715	MA2C165001VT	DIODE SI	
or D4715	B0AACK000004	DIODE SI	
D4716	MA2C165001VT	DIODE SI	
or D4716	B0AACK000004	DIODE SI	

Ref. No.	Part No.	Part Name & Description	Remarks
D4717	MA2C165001VT	DIODE SI	
or D4717	B0AACK000004	DIODE SI	
D4718	MA2C165001VT	DIODE SI	
or D4718	B0AACK000004	DIODE SI	
D5304	MA2C165001VT	DIODE SI	
or D5304	B0AACK000004	DIODE SI	
D5501	MAZ40620L1KT	DIODE ZENER 6.2V	⚠
D6001	B3EA00000072	SENSOR LED	
D6002	MA2C165001VT	DIODE SI	
or D6002	B0AACK000004	DIODE SI	
D6003	MA2C165001VT	DIODE SI	
or D6003	B0AACK000004	DIODE SI	
D6004	MA2C165001VT	DIODE SI	
or D6004	B0AACK000004	DIODE SI	
D6005	MA2C165001VT	DIODE SI	
or D6005	B0AACK000004	DIODE SI	
D6006	MA2C165001VT	DIODE SI	
or D6006	B0AACK000004	DIODE SI	
D6009	MA2C165001VT	DIODE SI	
or D6009	B0AACK000004	DIODE SI	
D6010	MA2C165001VT	DIODE SI	
or D6010	B0AACK000004	DIODE SI	
D6201	MA2C165001VT	DIODE SI	
or D6201	B0AACK000004	DIODE SI	
D6202	MA2C165001VT	DIODE SI	
or D6202	B0AACK000004	DIODE SI	
D6301	B3AAA0000538	LIGHT EMITTING DIODE RED	
D6304	B3ACA0000192	LIGHT EMITTING DIODE ORANGE	
D9501	MA2C165001VT	DIODE SI	
or D9501	B0AACK000004	DIODE SI	
D9502	MA2C165001VT	DIODE SI	
or D9502	B0AACK000004	DIODE SI	
D9503	MA2C165001VT	DIODE SI	
or D9503	B0AACK000004	DIODE SI	
D9504	MA2C165001VT	DIODE SI	
or D9504	B0AACK000004	DIODE SI	
D9505	MAZ40510MF	DIODE ZENER 5.1V	
or D9505	B0BA5R100022	DIODE ZENER 5.1V	
or D9505	B0BA5R200015	DIODE ZENER 5.2V	
D9506	MAZ40510MF	DIODE ZENER 5.1V	
or D9506	B0BA5R100022	DIODE ZENER 5.1V	
or D9506	B0BA5R200015	DIODE ZENER 5.2V	
D9507	MA2C165001VT	DIODE SI	
or D9507	B0AACK000004	DIODE SI	
D9508	MA2C165001VT	DIODE SI	
or D9508	B0AACK000004	DIODE SI	
D9509	MAZ41200LF	DIODE ZENER 12V	
D9510	MAZ41200LF	DIODE ZENER 12V	
D9511	MAZ41200LF	DIODE ZENER 12V	
D9512	MAZ41200LF	DIODE ZENER 12V	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R591	ERDS2TJ103	CARBON 1/4W 10K	
R592	ERDS2TJ472	CARBON 1/4W 4.7K	

Ref. No.	Part No.	Part Name & Description	Remarks
R801	D0AF825KA002	SOLID 1/2W 8.2M	⚠
R802	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R803	ERDS2TJ103	CARBON 1/4W 10K	
R804	ERF5ZKR82	W FLMPRF 5W 0.82	⚠
R805	ERDS1FJ474T	CARBON 1/2W 470K	⚠
R850	D0AF184JA038	SOLID 1/2W 180K	
R851	ERD2FCG681V	FUSE 1/4W 680	⚠
R852	ERDS2TJ683	CARBON 1/4W 68K	
R853	ERDS2TJ683	CARBON 1/4W 68K	
R855	ERX2SZJR10P	METAL FILM 2W 0.1	
R857	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R858	ERDS2TJ4R7	CARBON 1/4W 4.7	
R860	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R866	ERG2SJ333H	METAL OXIDE 2W 33K	
R1001	D0AF683JA038	SOLID 1/2W 68K	
R1002	ERDS2TJ151	CARBON 1/4W 150	
R1003	D0AF150JA038	SOLID 1/2W 15	
R1004	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R1005	ERX2SJR22P	METAL FILM 2W 0.22	
R1006	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R1008	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R1009	ERDS2TJ102	CARBON 1/4W 1K	
R1010	ERDS2TJ330T	CARBON 1/4W 33	
R1011	ERD25FJ3R3P	CARBON 1/4W 3.3	⚠
R1012	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R1013	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R1014	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R1015	D1BD2431A016	MGF CHIP 1/10W 2.43K	
R1016	D0HD222ZA002	MGF CHIP 1/10W 2.2K	
R1017	D1BB1242A031	MGF CHIP 1/16W 12.4K	
R1018	D0HB302ZA002	MGF CHIP 1/16W 3K	
R1020	ERDS2TJ391	CARBON 1/4W 390	
R1201	ERJ6ENF3741V	MGF CHIP 1/16W 3.74K	
R1202	ERJ3EKF1800V	MGF CHIP 1/16W 180	
R1205	ERDS2TJ331	CARBON 1/4W 330	
R1208	ERJ6GEYJ303V	MGF CHIP 1/10W 30K	
R1212	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R1621	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R3001	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R3002	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R3003	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3004	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3005	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R3006	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R3007	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3008	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3009	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R3010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3011	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3012	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3014	ERJ3GEYJ685V	MGF CHIP 1/16W 6.8M	
R3018	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3020	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3021	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3023	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3024	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R3025	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R3343	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R3347	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3349	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4007	ERDS2TJ152	CARBON 1/4W 1.5K	
R4008	ERDS2TJ152	CARBON 1/4W 1.5K	
R4009	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4010	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4011	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4012	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4015	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R4016	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4017	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4018	ERJ3EKF1002V	MGF CHIP 1/16W 10K	
R4061	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4062	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4063	ERJ3GEYJ271V	MGF CHIP 1/16W 270	

Ref. No.	Part No.	Part Name & Description	Remarks
R4071	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R4081	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4084	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4085	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4101	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R4102	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4103	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R4201	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4202	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4203	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4204	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4205	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4206	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4207	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4208	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R4209	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R4210	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R4213	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4214	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4215	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R4218	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4219	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4224	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R4225	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4226	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R4229	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R4230	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R4231	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4232	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4233	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4234	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4453	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R4502	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4503	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4504	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4505	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4506	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4591	ERDS2TJ681	CARBON 1/4W 680	
R4592	ERDS2TJ681	CARBON 1/4W 680	
R4593	ERDS2TJ681	CARBON 1/4W 680	
R4594	ERDS2TJ681	CARBON 1/4W 680	
R4601	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4602	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4603	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R4604	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R4605	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4606	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R4607	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4608	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R4609	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R4610	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4611	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4701	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4703	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R4710	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R4903	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R5301	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R5302	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5303	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R5304	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R5305	ERJ3GEYJ224V	MGF CHIP 1/16W 220K	
R5306	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5308	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R5309	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R5311	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5312	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5313	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5314	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5315	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5316	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R5317	ERDS2TJ101	CARBON 1/4W 100	
R5327	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5328	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	

Ref. No.	Part No.	Part Name & Description	Remarks
R5329	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5353	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5354	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5356	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5401	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5402	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R5403	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R5405	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R5406	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5501	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R5502	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R5503	ERDS2TJ471	CARBON 1/4W 470	
R5504	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5505	ERJ6ENF3241V	MGF CHIP 1/10W 3.24K	⚠
R5506	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R5508	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R5510	ERDS2TJ101	CARBON 1/4W 100	
R5511	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5512	ERDS2TJ151	CARBON 1/4W 150	
R5513	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5515	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5604	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R5651	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5652	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5653	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R5655	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5656	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R5657	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R5658	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R5659	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5660	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R5661	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5662	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5664	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5665	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R5666	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R5673	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R5674	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5675	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R5676	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R5680	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5681	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R5683	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5902	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R5932	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R5933	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6005	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6008	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6009	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R6010	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6012	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6013	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6014	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6015	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6016	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6017	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6018	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6019	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6021	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6022	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6023	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6025	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6026	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6027	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6028	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6029	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6034	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6036	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6039	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6041	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6042	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6043	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6047	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6048	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6050	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6051	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6054	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6056	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R6058	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6059	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6060	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6061	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6062	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6063	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6064	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6065	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R6066	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6067	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6068	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6069	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6070	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6071	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6072	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6074	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6078	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6079	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6080	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6081	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6082	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6083	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6085	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6086	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R6087	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R6089	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6093	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6094	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R6095	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6101	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6102	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6103	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6104	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6105	ERDS2TJ151	CARBON 1/4W 150	
R6106	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R6108	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R6109	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R6110	ERJ6GEYJ121V	MGF CHIP 1/10W 120	
R6111	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R6112	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6113	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R6114	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R6115	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6117	ERDS2TJ560T	CARBON 1/4W 56	
R6118	ERJ3GEYJ475V	MGF CHIP 1/16W 4.7M	
R6119	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6120	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6121	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6122	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6123	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6129	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6130	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6175	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6201	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6202	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6203	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6204	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6205	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6206	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6207	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6208	ERJ6GEYJ1R2V	MGF CHIP 1/10W 1.2	
R6209	ERJ6GEYJ1R5V	MGF CHIP 1/10W 1.5	
R6210	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6211	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R6212	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6213	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6214	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6301	ERJ3EKF2201V	MGF CHIP 1/16W 2.2	
R6302	ERJ3EKF3301V	MGF CHIP 1/16W 3.3K	
R6303	ERJ3EKF5601V	MGF CHIP 1/16W 5.6K	
R6304	ERJ3EKF1102V	MGF CHIP 1/16W 11K	
R6306	ERJ3EKF2201V	MGF CHIP 1/16W 2.2	
R6307	ERJ3EKF3301V	MGF CHIP 1/16W 3.3K	
R6308	ERJ3EKF5601V	MGF CHIP 1/16W 5.6K	
R6309	ERJ3EKF1102V	MGF CHIP 1/16W 11K	
R6311	ERJ3EKF2201V	MGF CHIP 1/16W 2.2	
R6312	ERJ3EKF3301V	MGF CHIP 1/16W 3.3K	
R6316	ERJ3EKF1102V	MGF CHIP 1/16W 11K	
R6317	ERJ3EKF1102V	MGF CHIP 1/16W 11K	
R6318	ERJ3EKF1102V	MGF CHIP 1/16W 11K	
R6321	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6322	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6323	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6401	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R6511	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6512	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6513	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6514	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6515	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6516	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6517	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6522	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R7001	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R7002	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R7003	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R7033	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9501	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R9502	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9503	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R9509	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R9510	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C801	F0CAF334A021	POLYESTER 125V 0.33UF	⚠
C803	F0CAF104A021	POLYESTER 125V 0.1UF	⚠
C804	ECKATS102ME	CERAMIC 250V 1000PF	⚠
or C804	ECKETS102ME	CERAMIC 250V 1000PF	⚠
or C804	F1BAF102A059	CERAMIC 250V 1000PF	⚠
or C804	F1BAH1020011	CERAMIC 250V 1000PF	⚠
or C804	F1BAH1020013	CERAMIC 250V 1000PF	⚠
or C804	F1B2E1020004	CERAMIC 250V 1000PF	⚠
C806	F1BAF472A082	CERAMIC 250V 4700PF	
C807	F1BAF472A082	CERAMIC 250V 4700PF	
C808	F1BAF472A082	CERAMIC 250V 4700PF	
C809	F1BAF472A082	CERAMIC 250V 4700PF	
C855	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C856	ECJ1VB1H471K	C CHIP 50V 470PF	
C857	F2B2D3310020	ELECTROLYTIC 200V 330UF	⚠
C858	F1B3D152A010	CERAMIC 2KV 1500PF	
C859	F1H1H221A009	C CHIP 50V 220PF	
C861	ECKATS152ME	CERAMIC 250V 1500PF	⚠
or C861	ECKETS152ME	CERAMIC 250V 1500PF	⚠
C864	ECKR3A102KBP	CERAMIC 1KV 1000PF	
C865	F2A1E4710047	ELECTROLYTIC 25V 470UF	
C867	F2B2D3310020	ELECTROLYTIC 200V 330UF	⚠
C868	F2A1E4710047	ELECTROLYTIC 25V 470UF	
C869	ECKN3A221KBP	CERAMIC 1KV 220PF	
C870	F2A2D4R70010	ELECTROLYTIC 200V 4.7UF	
C872	F2A2D8200003	ELECTROLYTIC 200V 82UF	⚠
C1001	ECKATS332ME8	CERAMIC 250V 3300PF	⚠
or C1001	ECKETS332ME8	CERAMIC 125V 3300PF	⚠
or C1001	F1BAF3320029	CERAMIC 250V 3300PF	⚠
C1003	ECA1HHG470I	ELECTROLYTIC 50V 47UF	
C1004	ECKATS102ME	CERAMIC 250V 1000PF	⚠
C1005	F2A2D8200003	ELECTROLYTIC 200V 82UF	⚠

Ref. No.	Part No.	Part Name & Description	Remarks
C1006	ECJ1VB1H471K	C CHIP 50V 470PF	
C1007	F1B3D681A011	CERAMIC 2KV 680PF	
C1008	ECA1HHG010B	ELECTROLYTIC 50V 1UF	
C1010	F1J1H1040003	C CHIP 50V 0.1UF	
C1011	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1013	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1015	F1H1H102A219	C CHIP 50V 1000PF	
C1016	F1H1H103A220	C CHIP 50V 0.01UF	
C1017	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1018	F1J1H101A411	C CHIP 50V 100PF	
C1020	F2A1E4710070	ELECTROLYTIC 25V 470UF	
C1021	F1J1C2240007	C CHIP 16V 0.22UF	
C1024	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1025	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1026	EEUFF0J222E	ELECTROLYTIC 6.3V 2200UF	
C1027	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1028	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1029	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1030	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1031	EEUFF0J222E	ELECTROLYTIC 6.3V 2200UF	
C1033	ECA1HHG470I	ELECTROLYTIC 50V 47UF	
C1034	F2A0J331A137	ELECTROLYTIC 6.3V 330UF	
C1035	F1H1A105A028	C CHIP 10V 1UF	
C1036	F1H1A105A028	C CHIP 10V 1UF	
C1037	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1038	EEUFF0J222E	ELECTROLYTIC 6.3V 2200UF	
C1040	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1203	ECA1HHG100I	ELECTROLYTIC 50V 10UF	
C1204	ECA1HHG470I	ELECTROLYTIC 50V 47UF	
C1210	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C1212	ECEA0JEE101	ELECTROLYTIC 6.3V 100UF	
C1213	F2A1E3310040	ELECTROLYTIC 25V 330UF	
C1214	ECA1HHG470I	ELECTROLYTIC 50V 47UF	
C1218	ECA1HHG470B	ELECTROLYTIC 50V 47UF	
C1301	F1J1C474A091	C CHIP 16V 0.47UF	
C1302	F1H1A105A028	C CHIP 10V 1UF	
C1603	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C1621	F1H1H270A736	C CHIP 50V 27PF	
C1622	F1H1C104A041	C CHIP 16V 0.1UF	
C3001	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C3002	F1H1C104A041	C CHIP 16V 0.1UF	
C3003	F1H1C104A041	C CHIP 16V 0.1UF	
C3004	F1H1H151A737	C CHIP 50V 150PF	
C3005	F1H1C104A041	C CHIP 16V 0.1UF	
C3006	F1H1C104A041	C CHIP 16V 0.1UF	
C3007	ECJ1VC1H330J	C CHIP 50V 33PF	
C3008	F2A1H4R70022	ELECTROLYTIC 50V 4.7UF	
C3009	F1H1A105A028	C CHIP 10V 1UF	
C3010	F1H1A105A028	C CHIP 10V 1UF	
C3011	F1H1A105A028	C CHIP 10V 1UF	
C3012	F1H1C104A041	C CHIP 16V 0.1UF	
C3013	F1H1A224A012	C CHIP 10V 0.22UF	
C3014	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C3015	F1H1C104A041	C CHIP 16V 0.1UF	
C3016	F1H1A105A028	C CHIP 10V 1UF	
C3017	F1H1C104A041	C CHIP 16V 0.1UF	
C3018	F1H1C104A041	C CHIP 16V 0.1UF	
C3019	F1H1C104A041	C CHIP 16V 0.1UF	
C3020	F2A1H3R30014	ELECTROLYTIC 50V 3.3UF	
C3021	F1H1H103A219	C CHIP 50V 0.01UF	
C3022	F1H1H103A220	C CHIP 50V 0.01UF	
C3023	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C3024	F1H1H3310001	C CHIP 50V 330PF	
C3025	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C3026	F1H1H103A219	C CHIP 50V 0.01UF	
C3028	F1H1H103A220	C CHIP 50V 0.01UF	
C3029	F1H1H103A220	C CHIP 50V 0.01UF	
C3030	F1H1A105A028	C CHIP 10V 1UF	
C3031	F1H1H2R00008	C CHIP 50V 2PF	
C3032	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C3033	F1H1A224A012	C CHIP 10V 0.22UF	
C3034	F1H1C104A041	C CHIP 16V 0.1UF	
C3035	F2A1H3R30014	ELECTROLYTIC 50V 3.3UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3036	F2A1H2R20019	ELECTROLYTIC 50V 2.2UF	
C3037	F1H1H472A219	C CHIP 50V 4700PF	
C3038	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C3039	F1H0J474A002	C CHIP 6.3V 0.47UF	
C3040	ECJ1VB1C223K	C CHIP 16V 0.022UF	
C3041	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C3048	F1H1C104A008	C CHIP 16V 0.1UF	
C3049	F1H1H103A219	C CHIP 50V 0.01UF	
C3050	F1H1H103A219	C CHIP 50V 0.01UF	
C3051	F1H1H103A219	C CHIP 50V 0.01UF	
C3052	F1H1H103A219	C CHIP 50V 0.01UF	
C3054	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C3055	F1H1C104A041	C CHIP 16V 0.1UF	
C3056	F1H1C104A041	C CHIP 16V 0.1UF	
C3057	F1H1C104A041	C CHIP 16V 0.1UF	
C3347	ECJ1VC1H330J	C CHIP 50V 33PF	
C4009	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4010	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4011	F1H1H152A219	C CHIP 50V 1500PF	
C4016	ECJ1VC1H150J	C CHIP 50V 15PF	
C4018	F2A0J2200012	ELECTROLYTIC 6.3V 22UF	
C4041	F2A1H2R20019	ELECTROLYTIC 50V 2.2UF	
C4042	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4052	F1H1C104A008	C CHIP 16V 0.1UF	
C4053	F1H1H102A219	C CHIP 50V 1000PF	
C4054	F2A0J2210029	ELECTROLYTIC 6.3V 220UF	
C4061	F1H1H103A748	C CHIP 50V 0.01UF	
C4062	ECEA1CKA330I	ELECTROLYTIC 16V 33UF	
C4063	F2A1H3R30014	ELECTROLYTIC 50V 3.3UF	
C4064	ECJ1VB1H182K	C CHIP 50V 1800PF	
C4065	ECJ1VB1H182K	C CHIP 50V 1800PF	
C4082	ECJ1VB1H471K	C CHIP 50V 470PF	
C4102	ECQB1562JF3	POLYESTER 100V 5600PF	
C4103	F1H1H103A219	C CHIP 50V 0.01UF	
C4104	F1H1H103A219	C CHIP 50V 0.01UF	
C4106	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C4201	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4202	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C4203	F2A0J3300011	ELECTROLYTIC 6.3V 33UF	
C4204	F2A0J3300011	ELECTROLYTIC 6.3V 33UF	
C4205	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4206	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4207	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4208	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4209	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4210	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4211	F1H1H153A219	C CHIP 50V 0.015UF	
C4212	F1H1H153A219	C CHIP 50V 0.015UF	
C4213	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4214	F2A1C1010047	ELECTROLYTIC 16V 100UF	
C4215	F1H1H103A220	C CHIP 50V 0.01UF	
C4217	F2A0J2200012	ELECTROLYTIC 6.3V 22UF	
C4218	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4219	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4227	F1H1C2240004	C CHIP 16V 0.22UF	
C4229	F1H1H103A220	C CHIP 50V 0.01UF	
C4230	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C4239	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4240	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4241	ECJ1VC1H560J	C CHIP 50V 56PF	
C4242	ECJ1VC1H560J	C CHIP 50V 56PF	
C4401	F1H1H103A748	C CHIP 50V 0.01UF	
C4402	F1H1H103A748	C CHIP 50V 0.01UF	
C4455	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C4456	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C4458	F1H1H103A220	C CHIP 50V 0.01UF	
C4459	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C4501	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C4502	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4503	F1H1H122A219	C CHIP 50V 1200PU	
C4504	F1H1H122A219	C CHIP 50V 1200PU	
C4505	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4506	F2A1H4R70022	ELECTROLYTIC 50V 4.7UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C4507	F2A1E4710047	ELECTROLYTIC 25V 470UF	
C4508	F2A1E4710047	ELECTROLYTIC 25V 470UF	
C4509	F2A1C101A534	ELECTROLYTIC 16V 100UF	
C4510	F2A1E4710047	ELECTROLYTIC 25V 470UF	
C4601	F1H1C104A041	C CHIP 16V 0.1UF	
C4602	F1H1H103A748	C CHIP 50V 0.01UF	
C4603	F1H1C104A041	C CHIP 16V 0.1UF	
C4604	F1H1H103A748	C CHIP 50V 0.01UF	
C4605	F1H1C104A041	C CHIP 16V 0.1UF	
C4607	F1H1C104A041	C CHIP 16V 0.1UF	
C4608	F2A1H4R70022	ELECTROLYTIC 50V 4.7UF	
C4610	F2A1H4R70022	ELECTROLYTIC 50V 4.7UF	
C4612	F2A1H4R70022	ELECTROLYTIC 50V 4.7UF	
C4614	ECJ1VB1C823K	C CHIP 16V 0.082UF	
C4615	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C4617	F1H1H103A220	C CHIP 50V 0.01UF	
C4619	ECJ2YB1C334K	C CHIP 16V 0.33UF	
C4621	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4622	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4623	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4624	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4627	ECJ1VC1H560J	C CHIP 50V 56PF	
C4628	ECJ1VC1H560J	C CHIP 50V 56PF	
C4629	F2A1C1020041	ELECTROLYTIC 16V 1000UF	
C4901	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4902	F2A1H2R20019	ELECTROLYTIC 50V 2.2UF	
C4903	F2A1H3R30014	ELECTROLYTIC 50V 3.3UF	
C4904	F2A1H3R30014	ELECTROLYTIC 50V 3.3UF	
C4905	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C4906	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C4911	F1H1E223A029	C CHIP 25V 0.022UF	
C4912	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C4913	F1H1H103A748	C CHIP 50V 0.01UF	
C4914	F1H1C2240004	C CHIP 16V 0.22UF	
C4915	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C4916	F1H1H103A220	C CHIP 50V 0.01UF	
C4917	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C4918	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C4919	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C4920	F1H1E223A029	C CHIP 25V 0.022UF	
C5301	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5302	F2A1E4R70022	ELECTROLYTIC 25V 4.7UF	
C5303	F2A1HR470012	ELECTROLYTIC 50V 0.47UF	
C5305	F2A1HR470012	ELECTROLYTIC 50V 0.47UF	
C5306	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5307	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5308	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5353	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5354	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5356	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5358	ECJ1VC1H220J	C CHIP 50V 22PF	
C5401	F1J1C2240007	C CHIP 16V 0.22UF	
C5402	F1H1H222A219	C CHIP 50V 2200PF	
C5403	F2A1H2R20019	ELECTROLYTIC 50V 2.2UF	
C5501	F1H1E183A029	C CHIP 25V 0.018UF	
C5502	ECJ1VB1H681K	C CHIP 50V 680PF	
C5505	F2A1C2210040	ELECTROLYTIC 16V 220UF	
C5506	F1H1H103A220	C CHIP 50V 0.01UF	
C5507	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C5508	F1J1H221A501	C CHIP 50V 220PF	
C5510	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C5511	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C5516	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C5601	F1H1H103A220	C CHIP 50V 0.01UF	
C5602	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C5603	ECJ1VC1H150J	C CHIP 50V 15PF	
C5604	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C5605	F1H1E153A029	C CHIP 25V 0.015UF	
C5654	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C5656	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C5657	F1H1E104A030	C CHIP 25V 0.1UF	
C5658	F1H1H103A220	C CHIP 50V 0.01UF	
C5659	F1H1H103A220	C CHIP 50V 0.01UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C5660	F1H1H103A220	C CHIP 50V 0.01UF	
C5661	F1H1H104A731	C CHIP 50V 0.01UF	
C5662	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C5664	F1H1H103A220	C CHIP 50V 0.01UF	
C5665	F1H1H103A220	C CHIP 50V 0.01UF	
C5668	F1H1H103A220	C CHIP 50V 0.01UF	
C5669	F1H1H181A230	C CHIP 50V 180PF	
C5670	F1H1H103A220	C CHIP 50V 0.01UF	
C5671	F1H1H103A220	C CHIP 50V 0.01UF	
C5672	F1H1H103A220	C CHIP 50V 0.01UF	
C5673	ECJ1VC1H180J	C CHIP 50V 18PF	
C5674	ECJ1VC1H390J	C CHIP 50V 39PF	
C5677	F1H1E104A030	C CHIP 25V 0.1UF	
C5678	F2A1C2200034	ELECTROLYTIC 16V 22UF	
C5681	F1H1H103A220	C CHIP 50V 0.01UF	
C5685	F1H1H103A220	C CHIP 50V 0.01UF	
C5686	F1H1H103A220	C CHIP 50V 0.01UF	
C5687	ECJ1VC1H220J	C CHIP 50V 22PF	
C5688	F1H1H103A220	C CHIP 50V 0.01UF	
C5689	F1H1H103A220	C CHIP 50V 0.01UF	
C5690	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C5902	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C5903	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C5904	F1H1C104A041	C CHIP 16V 0.1UF	
C5905	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C5906	F1H1H103A220	C CHIP 50V 0.01UF	
C5907	F1H1H104A731	C CHIP 50V 0.01UF	
C5908	F2A1C1010047	ELECTROLYTIC 16V 100UF	
C5932	F1H1H103A220	C CHIP 50V 0.01UF	
C5933	ECJ1VC1H560J	C CHIP 50V 56PF	
C5934	ECJ1VC1H560J	C CHIP 50V 56PF	
C6001	ECEA0JKA331	ELECTROLYTIC 6.3V 330UF	
C6002	ECJ1VC1H220J	C CHIP 50V 22PF	
C6003	ECJ1VC1H180J	C CHIP 50V 18PF	
C6005	F1H1H103A220	C CHIP 50V 0.01UF	
C6006	F1J1E1040007	C CHIP 25V 0.1UF	
C6007	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C6008	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	
C6010	F1H1E104A030	C CHIP 25V 0.1UF	
C6016	F1H1H103A220	C CHIP 50V 0.01UF	
C6019	ECJ1VC1H330J	C CHIP 50V 33PF	
C6020	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C6021	F2A0J2200012	ELECTROLYTIC 6.3V 22UF	
C6022	F2A1C1000035	ELECTROLYTIC 16V 10UF	
C6023	F1H1H272A219	C CHIP 50V 2700PF	
C6024	F1H1H1230001	C CHIP 50V 0.012UF	
C6025	ECJ1VB1E104K	C CHIP 25V 0.1UF	
C6026	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C6030	F1H1H104A731	C CHIP 50V 0.01UF	
C6032	ECJ1VC1H101J	C CHIP 50V 100PF	
C6036	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C6037	F1H1H104A731	C CHIP 50V 0.01UF	
C6041	ECJ1VB1H681K	C CHIP 50V 680PF	
C6101	F1H1H104A731	C CHIP 50V 0.01UF	
C6102	F1H1H104A731	C CHIP 50V 0.01UF	
C6201	F1H1C563A071	C CHIP 16V 0.056UF	
C6202	F1H1C563A071	C CHIP 16V 0.056UF	
C6203	F1H1H562A219	C CHIP 50V 5600PF	
C6204	F1H1H562A219	C CHIP 50V 5600PF	
C6205	F1H1H103A748	C CHIP 50V 0.01UF	
C6206	F1H1C104A041	C CHIP 16V 0.1UF	
C6207	F1J1C2240007	C CHIP 16V 0.22UF	
C6208	F1J1H223A623	C CHIP 50V 0.22UF	
C6209	F1J1H223A623	C CHIP 50V 0.22UF	
C6210	F1H1H103A748	C CHIP 50V 0.01UF	
C6211	F1H1H102A219	C CHIP 50V 1000PF	
C6212	F1H1H102A219	C CHIP 50V 1000PF	
C6213	F2A1H1R00035	ELECTROLYTIC 50V 1UF	
C6214	ECJ1VB1H182K	C CHIP 50V 1800PF	
C6215	F1H1H104A731	C CHIP 50V 0.01UF	
C6216	F2A0J2210029	ELECTROLYTIC 6.3V 220UF	
C6217	F2A1C4700035	ELECTROLYTIC 16V 47UF	
C6218	F1H1C104A041	C CHIP 16V 0.1UF	
C6219	F1H1C104A041	C CHIP 16V 0.1UF	
C6220	F1H1C104A041	C CHIP 16V 0.1UF	
C6221	F2A1E2210041	ELECTROLYTIC 25V 220UF	
C6222	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C6227	F1J1C105A083	C CHIP 16V 1UF	
C6401	F1H1H104A731	C CHIP 50V 0.01UF	
C6402	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	
C6403	F1J1H102A623	C CHIP 50V 1000PF	
C6404	ECJ1VB1E333K	C CHIP 25V 0.033UF	
C6405	F1J1H102A623	C CHIP 50V 1000PF	
C6406	F1H1H5610004	C CHIP 50V 560PF	
C6407	F1H1C104A041	C CHIP 16V 0.1UF	
C6408	F1H1H820A736	C CHIP 50V 82PF	
C6409	ECJ1VC1H101J	C CHIP 50V 100PF	
C7001	F2A0J1020034	ELECTROLYTIC 6.3V 1000UF	
C7002	F1H1H103A748	C CHIP 50V 0.01UF	
C7003	F1H1H100A735	C CHIP 50V 10PF	
C7008	F1H1H100A735	C CHIP 50V 10PF	
C7011	F1H1H103A748	C CHIP 50V 0.01UF	
C7021	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
C7040	F1H1H560A230	C CHIP 50V 56PF	

FILTERS

Ref. No.	Part No.	Part Name & Description	Remarks
FL5651	F1Y2A1030005	L/C COMPLX CMP	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L801	G0B452H00001	LINE FILTER 2.5A 4.5MH	⚠
or L801	ELF21V025A	LINE FILTER 2.5A 4.5MH	⚠
or L801	G0B452H00002	LINE FILTER 2.5A 4.5MH	⚠
L802	G0B452H00001	LINE FILTER 2.5A 4.5MH	⚠
or L802	ELF21V025A	LINE FILTER 2.5A 4.5MH	⚠
or L802	G0B452H00002	LINE FILTER 2.5A 4.5MH	⚠
L850	J0JKA0000016	FERRITE BEAD WITH LEAD	
L855	G0A100HA0023	COIL 10UH	
L856	G0A220GA0026	COIL 22UH	
L857	J0JHB0000021	EMI FILTER CHIP	
L1001	G0B183E00002	LINE FILTER 0.5A 18MH	⚠
or L1001	ELF15N005A	LINE FILTER 0.5A 18MH	⚠
or L1001	G0B183D00008	LINE FILTER 0.5A 18MH	⚠
L1003	G0A220GA0026	COIL 22UH	
L1004	G0A220GA0026	COIL 22UH	
L1005	G0A220GA0026	COIL 22UH	
L1006	G0A220GA0026	COIL 22UH	
L1007	G0A100HA0023	COIL 10UH	
L1009	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L1010	G0A220GA0026	COIL 22UH	
L1601	J0JCC0000004	EMI FILTER CHIP	
L1602	J0JCC0000004	EMI FILTER CHIP	
L1621	G0C220K00008	COIL 22UH	
L3001	G0C271JA0019	COIL 270UH	
L3002	G0C150KA0045	COIL 15UH	
L3003	G0C680KA0045	COIL 68UH	
L3004	G1C120JA0036	COIL CHIP 12UH	
L3005	G0C330KA0045	COIL 33UH	
L3008	G0C560KA0045	COIL 56UH	
L3011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L4003	G0C270KA0045	COIL 27UH	
L4101	G0C471JA0021	COIL 470UH	
L4201	G0C101J00001	COIL 100UH	
L4451	G0C101J00001	COIL 100UH	
L4501	J0JBC0000014	BEAD INDUCTOR CHIP	
L4502	J0JBC0000014	BEAD INDUCTOR CHIP	
L4503	J0JBC0000014	BEAD INDUCTOR CHIP	
L4504	J0JBC0000014	BEAD INDUCTOR CHIP	
L4601	G0C101J00001	COIL 100UH	
L4901	G0C101J00001	COIL 100UH	
L4902	G0C101J00001	COIL 100UH	
L5652	G0C150JA0019	COIL 15UH	
L5653	G0C101J00001	COIL 100UH	

Ref. No.	Part No.	Part Name & Description	Remarks
L5654	G0C270JA0019	COIL 27UH	
L5655	G0C101J00001	COIL 100UH	
L5658	G0C101JA0019	COIL 100UH	
L5659	G0C101J00001	COIL 100UH	
L5661	G0C101J00001	COIL 100UH	
L5901	G0C101J00001	COIL 100UH	
L6401	G0C101KA0045	COIL 100UH	
L6402	G0C4R7JA0019	COIL 4.7UH	
L6403	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L6404	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L6405	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L6406	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L7001	G0C100JA0071	COIL 10UH	
L7002	G0C101KA0045	COIL 100UH	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X3001	H0D357400068	CRYSTAL OSCILLATOR	
X5501	H2A503300012	CRYSTAL OSCILLATOR	
X5601	H0B357400003	CRYSTAL OSCILLATOR	
X6001	H0A120500003	CRYSTAL OSCILLATOR	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P801	K1KA02A00593	CONNECTOR 2P	
P851	VEKS9479	CONNECTOR CABLE W/PLUG	
P1006	K1MR11A00017	CONNECTOR 11P	
P3501	K1MN09A00029	CONNECTOR 9P	
P3502	LSEK0540	GROUNDING WIRE	
P3503	LSEK0540	GROUNDING WIRE	
P4001	K1MZ02A00003	FE CONNECTOR 2P	
P4002	K1MN06A00030	CONNECTOR 6P	
P4501	K1KA02A00375	CONNECTOR 2P	
P4502	K1KA02A00375	CONNECTOR 2P	
P4801	K1MN16A00070	CONNECTOR 16P	
P5302	K1MP04A00006	CONNECTOR 4P	
P5501	K1MN13A00049	CONNECTOR 13P	
P6001	K1KA05A00268	CONNECTOR 5P	
P6201	K1KA08A00290	CONNECTOR 8P	
P6202	K1MN07A00017	CONNECTOR 7P	
P6203	K1KA02A00375	CONNECTOR 2P	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6001	K0C111A00006	SWITCH	<R>
SW6002	K0ZZ00000598	SWITCH	<R>
SW6301	EVQ21405R	SWITCH PUSH	
SW6302	EVQ21405R	SWITCH PUSH	
SW6303	EVQ21405R	SWITCH PUSH	
SW6304	EVQ21405R	SWITCH PUSH	
SW6307	EVQ21405R	SWITCH PUSH	
SW6308	EVQ21405R	SWITCH PUSH	
SW6309	EVQ21405R	SWITCH PUSH	
SW6310	EVQ21405R	SWITCH PUSH	
SW6313	EVQ21405R	SWITCH PUSH	
SW6314	EVQ21405R	SWITCH PUSH	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
F801	K5D632AQ0002	FUSE 125V 6.3A	⚠ <R>
or F801	K5D632ADA001	FUSE 125V 6.3A	⚠ <R>
PR850	D4FA7R00A002	IC PROTECTOR 7A	⚠ <R>
PR1001	D4FA7R00A002	IC PROTECTOR 7A	⚠ <R>
PR1002	UNH000600A	IC PROTECTOR 2.5A	⚠ <R>
or PR1002	D4FA2R50A002	IC PROTECTOR 2.5A	⚠ <R>

RELAY

Ref. No.	Part No.	Part Name & Description	Remarks
RL591	K6B1AGA00177	RELAY	⚠ <R>
or RL591	K6B1AGA00037	RELAY	⚠ <R>
or RL591	K6B1AGA00042	RELAY	⚠ <R>
RL801	K6B1AGA00177	RELAY	⚠ <R>
or RL801	K6B1AGA00037	RELAY	⚠ <R>
or RL801	K6B1AGA00042	RELAY	⚠ <R>

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T850	ETS35AA6S5ND	TRANSFORMER	⚠ <R>
T1001	LSTP0129	TRANSFORMER SWITCHING	⚠ <R>
T4101	G2A342C00004	TRANSFORMER	<R>

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK1601	B3RAE0000030	IC, JACK OPTICAL OUTPUT	
JK4591	K2HC103B0047	EARPHONE JACK SOCKET	
JK4702	K2HA306B0094	FRONT AUDIO/VIDEO JACK SOCKET	
JK9501	K2HA203B0014	AUDIO JACK SOCKET	
JK9502	K2HA305B0004	AUDIO/VIDEO JACK SOCKET	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
483	XYN3+F10FJ	SCREW W/WASHER,STEEL	
487	XYN3+J8FJ	SCREW W/WASHER,STEEL	
743	J3AAABB00002	TUNER,UHF/VHF NR	
771	EYF52BCY	FUSE HOLDER	
797	LSSC0529	HEAT SINK	
799	LSSC0793	HEAT SINK	

12.3.2. OPERATION C.B.A.

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6303	B3ABA0000400	LIGHT EMITTING DIODE GREEN	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6305	ERJ3EKF3302V	MGF CHIP 1/16W 33K	
R6313	ERJ3EKF5601V	MGF CHIP 1/16W 5.6K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C6302	F1H1H104A731	C CHIP 50V 0.01UF	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P6302	LSJWD7S040AA	CONNECTOR CABLE W/OUT PLUG	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6305	EVQ21405R	SWITCH PUSH	
SW6306	EVQ21405R	SWITCH PUSH	
SW6311	EVQ21405R	SWITCH PUSH	
SW6315	EVQ21405R	SWITCH PUSH	
SW6316	EVQ21405R	SWITCH PUSH	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
711	PNA4611M00HC	INFRARED RECEIVER UNIT	

12.3.3. DEFLECTION C.B.A.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC451	C1AA00000709	IC, LINEAR	<R>

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q431	2SA1309AHA	TRANSISTOR SI PNP CHIP	
or Q431	B1ACCF000047	TRANSISTOR SI PNP CHIP	
Q501	B1AACN000015	TRANSISTOR SI NPN	
Q523	2SA17670QA	TRANSISTOR SI PNP CHIP	
Q551	B1BAFT000005	TRANSISTOR SI NPN	⚠
Q571	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q571	B1ABCF000020	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D401	B0AAML000001	DIODE SI	
or D401	B0EAKL000008	DIODE SI	
D402	MA2C165001VT	DIODE SI	
or D402	B0AACK000004	DIODE SI	
D503	B0HAGP000014	DIODE SI	
D504	MAZ40470MF	DIODE ZENER 4.7V	
or D504	B0BA4R600003	DIODE ZENER 4.7V	
D505	MA2C165001VT	DIODE SI	
or D505	B0AACK000004	DIODE SI	
D553	B0HAGP000014	DIODE SI	
D554	MA2C16700E	DIODE SI	
or D554	B0AAEL000001	DIODE SI	
D555	MAZ40680MF	DIODE ZENER 6.8V	
or D555	B0BA6R600008	DIODE ZENER 6.8V	
D558	B0HAGP000014	DIODE SI	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R401	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R402	ERDS2TJ223	CARBON 1/4W 22K	
R405	ERG1SJ331P	METAL OXIDE 1W 330	
R409	ERJ6GEYJ273V	MGF CHIP 1/10W 27K	
R410	ERDS2TJ392	CARBON 1/4W 3.9K	
R411	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R413	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R414	ERDS1FJ1R2P	CARBON 1/2W 1.2	⚠
R422	ERDS2TJ331	CARBON 1/4W 330	
R427	ERDS1FJ1R5P	CARBON 1/2W 1.5	⚠
R431	ERDS2TJ821	CARBON 1/4W 820	
R432	ERJ3GEYJ513V	MGF CHIP 1/16W 51K	
R434	ERDS2TJ472	CARBON 1/4W 4.7K	
R435	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R436	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R466	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R468	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R471	ERDS1FJ152P	CARBON 1/2W 1.5K	⚠
R501	ERDS2TJ471	CARBON 1/4W 470	
R502	ERDS2TJ561	CARBON 1/4W 560	
R503	EROS2THF8661	PRECISION METAL FILM 1/4W 8.66K	⚠
R508	ERDS1FJ1R0P	CARBON 1/2W 1	⚠
R509	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R511	ERG2SJ222H	METAL OXIDE 2W 2.2K	
R512	ERDS2TJ122	CARBON 1/4W 1.2K	
R513	ERDS2TJ472	CARBON 1/4W 4.7K	
R516	D0C5222JA007	MGF CHIP 1/10W 2.2K	
R519	ERDS2TJ123	CARBON 1/4W 12K	
R524	ERDS2TJ103	CARBON 1/4W 10K	
R525	ERDS2TJ124	CARBON 1/4W 120K	
R526	ERX2SJR75H	METAL OXIDE 2W 0.75	⚠
R552	ERDS2TJ472	CARBON 1/4W 4.7K	
R553	ERDS2TJ102	CARBON 1/4W 1K	
R555	ERDS2TJ473	CARBON 1/4W 47K	
R556	ERDS2TJ473	CARBON 1/4W 47K	
R557	ERG2SJ102H	METAL OXIDE 2W 1K	
R558	ERDS2TJ333T	CARBON 1/4W 33K	
R561	ERQ1CJP2R7S	FUSE 1W 2.7	⚠
R562	ERF5ZK3R9	W FLMPRF 5W 3.9	
R571	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R572	ERDS2TJ561	CARBON 1/4W 560	
R573	ERDS2TJ101	CARBON 1/4W 100	
R574	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R586	ERDS2TJ562	CARBON 1/4W 5.6K	
R590	ERDS2TJ562	CARBON 1/4W 5.6K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C401	F2A1H2R20020	ELECTROLYTIC 50V 2.2UF	
C402	F2A1C4710038	ELECTROLYTIC 16V 470UF	
C408	ECA1HGE010KB	ELECTROLYTIC 50V 1UF	
C409	F2A1V2210038	ELECTROLYTIC 35V 220UF	
C413	ECQB1H104KF	POLYESTER 50V 0.1UF	
C414	F2A1E1020038	ELECTROLYTIC 25V 1000PF	
C418	F2A1V3310028	ELECTROLYTIC 35V 330UF	
C458	ECQB1H103KF3	POLYESTER 50V 0.01UF	
C510	ECKR3A102KBP	CERAMIC 1KV 1000PF	
C513	ECEA1VKA470B	ELECTROLYTIC 35V 47UF	
C521	F2A1H1000034	ELECTROLYTIC 50V 10UF	
C523	F2A1H1000034	ELECTROLYTIC 50V 10UF	
C555	ECWH16912JVB	POLYESTER 1600V 9100PF	⚠
C556	ECWF2244JBB	POLYESTER 250V 0.24UF	
C558	F2A1V3310028	ELECTROLYTIC 35V 330UF	
C560	ECA2EM100B	ELECTROLYTIC 250V 10UF	⚠
C561	F2A1H4R70026	ELECTROLYTIC 50V 4.7UF	
C575	F2A2D3300010	ELECTROLYTIC 200V 33UF	
C576	ECKW3D681KBP	CERAMIC 2KV 680PF	⚠

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L554	ELH5L4149	COIL	⚠

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P501	K1MN13A00049	CONNECTOR 13P	
P502	K1KA02A00593	CONNECTOR 2P	
P504	K1MP04A00013	CONNECTOR 4P	

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T501	ETH09K8AZ	TRANSFORMER	<R>
T551	G4G5K0000001	TRANSFORMER	⚠ <R>

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
151	TMM77408	CLAMPER	
470	XTV3+10GFJ	TAPPING SCREW,STEEL	
483	XYN3+F10FJ	SCREW W/WASHER,STEEL	
728	LUS63008A	HEAT SINK	
760	TUC77628	HEAT SINK	

12.3.4. CRT C.B.A.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q351	2SC3063000RL	TRANSISTOR SI NPN	
or Q351	B1BAAN000034	TRANSISTOR SI NPN	
or Q351	B1BAAN000035	TRANSISTOR SI NPN	
Q352	2SC3063000RL	TRANSISTOR SI NPN	
or Q352	B1BAAN000034	TRANSISTOR SI NPN	
or Q352	B1BAAN000035	TRANSISTOR SI NPN	
Q353	2SC3063000RL	TRANSISTOR SI NPN	
or Q353	B1BAAN000034	TRANSISTOR SI NPN	
or Q353	B1BAAN000035	TRANSISTOR SI NPN	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D351	MAZ41500MF	DIODE ZENER 15V	
or D351	B0BA01400041	DIODE ZENER 15V	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R351	ERG2ANJ153H	METAL OXIDE 2W 15K	
R352	ERG2ANJ153H	METAL OXIDE 2W 15K	
R353	ERG2ANJ153H	METAL OXIDE 2W 15K	
R354	ERD25TJ272	CARBON 1/4W 2.7K	
R355	ERD25TJ272	CARBON 1/4W 2.7K	
R356	ERD25TJ272	CARBON 1/4W 2.7K	
R357	ERDS2TJ392	CARBON 1/4W 3.9K	
R358	ERDS2TJ392	CARBON 1/4W 3.9K	
R359	ERDS2TJ392	CARBON 1/4W 3.9K	
R360	ERDS2TJ391	CARBON 1/4W 390	
R361	ERDS2TJ391	CARBON 1/4W 390	
R362	ERDS2TJ391	CARBON 1/4W 390	
R363	ERDS2TJ121	CARBON 1/4W 120	
R364	ERDS2TJ121	CARBON 1/4W 120	
R365	ERDS2TJ121	CARBON 1/4W 120	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C351	F1D1H471A012	CERAMIC 50V 470PF	
C352	F1D1H471A012	CERAMIC 50V 470PF	
C353	F1D1H561A012	CERAMIC 50V 560PF	
C354	F1B3D1020008	CERAMIC 2KV 1000PF	
C357	ECA1CM220B	ELECTROLYTIC 16V 22UF	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P351	LSJWD4S460AC	CONNECTOR CABLE W/OUT PLUG	
P352	LSJWE4S390AC	CONNECTOR CABLE W/OUT PLUG	
P353	K3B09CA00005	CRT SOCKET	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
272	TMM77412	CLAMPER	

12.3.5. DVD MAIN C.B.A.

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC8001	MN2DS03VP1H	IC, SYSTEM LSI	E.S.D. PSECI <R>
IC8002	LSSK0058	IC, 16M FLASH MEMORY	E.S.D. PSECI <R>
IC8003	C3ABPG000142	IC, 64M D RAM	E.S.D. PSECI <R>
or IC8003	C3ABPG000133	IC, 64M SDRAM	E.S.D. PSECI <R>
IC8004	LSSK0056	IC, 4K EEP ROM	E.S.D. PSECI <R>
IC8005	C0DBEZG00017	IC, LINEAR	PSECI <R>
IC8501	C0FBBK000035	IC, LINEAR	PSECI <R>
IC8503	C0ABBB000256	IC, LINEAR	PSECI <R>
IC8801	C0GBG0000054	IC, LINEAR	PSECI <R>

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q8401	2SB1218A0L	TRANSISTOR SI PNP CHIP	PSECI
or Q8401	B1ADCF000063	TRANSISTOR SI PNP CHIP	PSECI
or Q8401	B1ADCF000075	TRANSISTOR SI PNP CHIP	PSECI
Q8402	2SB1218A0L	TRANSISTOR SI PNP CHIP	PSECI
or Q8402	B1ADCF000063	TRANSISTOR SI PNP CHIP	PSECI
or Q8402	B1ADCF000075	TRANSISTOR SI PNP CHIP	PSECI
Q8403	2SB1218A0L	TRANSISTOR SI PNP CHIP	PSECI
or Q8403	B1ADCF000063	TRANSISTOR SI PNP CHIP	PSECI
or Q8403	B1ADCF000075	TRANSISTOR SI PNP CHIP	PSECI
Q8404	2SB1218A0L	TRANSISTOR SI PNP CHIP	PSECI
or Q8404	B1ADCF000063	TRANSISTOR SI PNP CHIP	PSECI
or Q8404	B1ADCF000075	TRANSISTOR SI PNP CHIP	PSECI
Q8501	UNR511500L	TRANSISTOR SI PNP CHIP	PSECI
or Q8501	B1GDCFJA0017	TRANSISTOR SI PNP CHIP	PSECI
or Q8501	B1GDCFJJ0025	TRANSISTOR SI PNP CHIP	PSECI
Q8502	UNR521500L	TRANSISTOR SI NPN CHIP	PSECI
or Q8502	B1GBCFJA0006	TRANSISTOR SI NPN CHIP	PSECI
or Q8502	B1GBCFJA0013	TRANSISTOR SI NPN CHIP	PSECI
Q8503	UNR521500L	TRANSISTOR SI NPN CHIP	PSECI
or Q8503	B1GBCFJA0006	TRANSISTOR SI NPN CHIP	PSECI
or Q8503	B1GBCFJA0013	TRANSISTOR SI NPN CHIP	PSECI
Q8504	UNR521500L	TRANSISTOR SI NPN CHIP	PSECI
or Q8504	B1GBCFJA0006	TRANSISTOR SI NPN CHIP	PSECI
or Q8504	B1GBCFJA0013	TRANSISTOR SI NPN CHIP	PSECI
Q8505	UNR521500L	TRANSISTOR SI NPN CHIP	PSECI
or Q8505	B1GBCFJA0006	TRANSISTOR SI NPN CHIP	PSECI
or Q8505	B1GBCFJA0013	TRANSISTOR SI NPN CHIP	PSECI
Q8901	2SD1819A0L	TRANSISTOR SI NPN CHIP	PSECI
or Q8901	B1ABCF000020	TRANSISTOR SI NPN CHIP	PSECI
Q8902	2SD1819A0L	TRANSISTOR SI NPN CHIP	PSECI
or Q8902	B1ABCF000020	TRANSISTOR SI NPN CHIP	PSECI
Q8903	2SB0709A0L	TRANSISTOR SI PNP CHIP	PSECI
or Q8903	B1ADCC000004	TRANSISTOR SI PNP CHIP	PSECI
or Q8903	B1ADCF000001	TRANSISTOR SI PNP CHIP	PSECI
or Q8903	B1ADCF000077	TRANSISTOR SI PNP CHIP	PSECI
Q8904	2SB0709A0L	TRANSISTOR SI PNP CHIP	PSECI
or Q8904	B1ADCC000004	TRANSISTOR SI PNP CHIP	PSECI
or Q8904	B1ADCF000001	TRANSISTOR SI PNP CHIP	PSECI
or Q8904	B1ADCF000077	TRANSISTOR SI PNP CHIP	PSECI
Q8905	UNR521100L	TRANSISTOR SI NPN CHIP	PSECI
or Q8905	B1GBCFJJ0001	TRANSISTOR SI NPN CHIP	PSECI
or Q8905	B1GBCFJJ0007	TRANSISTOR SI NPN CHIP	PSECI
or Q8905	B1GBCFJJ0035	TRANSISTOR SI NPN CHIP	PSECI
Q8906	UNR511500L	TRANSISTOR SI PNP CHIP	PSECI
or Q8906	B1GDCFJA0017	TRANSISTOR SI PNP CHIP	PSECI
or Q8906	B1GDCFJJ0025	TRANSISTOR SI PNP CHIP	PSECI

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D8001	MA2J111008	DIODE SI CHIP	PSECI

Ref. No.	Part No.	Part Name & Description	Remarks
or D8001	B0ACCK000005	DIODE SI CHIP	PSECI
or D8001	MA2J11100L	DIODE SI CHIP	PSECI

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R8001	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8004	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	PSECI
R8005	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	PSECI
R8006	EXB38V820JV	ARRAY CHIP 82	PSECI
R8007	EXB38V820JV	ARRAY CHIP 82	PSECI
R8008	EXB38V820JV	ARRAY CHIP 82	PSECI
R8009	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	PSECI
R8010	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	PSECI
R8015	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	PSECI
R8016	ERJ3GEYJ221V	MGF CHIP 1/16W 220	PSECI
R8017	ERJ3GEYJ221V	MGF CHIP 1/16W 220	PSECI
R8019	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	PSECI
R8020	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	PSECI
R8021	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	PSECI
R8023	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	PSECI
R8024	EXB38V820JV	ARRAY CHIP 82	PSECI
R8025	ERJ3GEYJ271V	MGF CHIP 1/16W 270	PSECI
R8026	ERJ3GEYJ271V	MGF CHIP 1/16W 270	PSECI
R8027	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	PSECI
R8028	ERJ3GEYJ271V	MGF CHIP 1/16W 270	PSECI
R8029	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8030	ERJ3GEYJ270V	MGF CHIP 1/16W 27	PSECI
R8033	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	PSECI
R8034	EXB38V820JV	ARRAY CHIP 82	PSECI
R8035	EXB38V820JV	ARRAY CHIP 82	PSECI
R8036	EXB38V820JV	ARRAY CHIP 82	PSECI
R8037	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8038	ERA3YED273V	MGF CHIP 1/16W 27K	PSECI
R8039	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	PSECI
R8040	ERJ3GEYJ330V	MGF CHIP 1/16W 33	PSECI
R8041	ERA3YED221V	MGF CHIP 1/16W 220	PSECI
R8042	ERJ3GEYJ330V	MGF CHIP 1/16W 33	PSECI
R8043	ERA3YED332V	MGF CHIP 1/16W 3.3K	PSECI
R8044	ERA3YED151V	MGF CHIP 1/16W 150	PSECI
R8046	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	PSECI
R8047	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8048	ERA3YED822V	MGF CHIP 1/16W 8.2K	PSECI
R8049	ERJ3GEYJ101V	MGF CHIP 1/16W 100	PSECI
R8051	EXB38V820JV	ARRAY CHIP 82	PSECI
R8052	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	PSECI
R8053	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	PSECI
R8056	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8057	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8058	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8059	ERJ1TYJ4R7U	MGF CHIP 1W 4.7	PSECI
R8060	ERA3YED103V	MGF CHIP 1/16W 10K	PSECI
R8061	ERA3YED202V	MGF CHIP 1/16W 2K	PSECI
R8065	ERJ3GEYJ6R8V	MGF CHIP 1/16W 6.8	PSECI
R8066	ERJ3GEYJ101V	MGF CHIP 1/16W 100	PSECI
R8067	ERJ3GEYJ101V	MGF CHIP 1/16W 100	PSECI
R8068	ERJ3GEYJ101V	MGF CHIP 1/16W 100	PSECI
R8071	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8401	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8402	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8403	ERA3YED102V	MGF CHIP 1/16W 1K	PSECI
R8404	ERA3YED102V	MGF CHIP 1/16W 1K	PSECI
R8405	ERA3YED302V	MGF CHIP 1/16W 3K	PSECI
R8406	ERA3YED302V	MGF CHIP 1/16W 3K	PSECI
R8409	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8410	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8418	ERA3YED181V	MGF CHIP 1/16W 180	PSECI
R8419	ERA3YED181V	MGF CHIP 1/16W 180	PSECI
R8420	ERJ3GEYJ121V	MGF CHIP 1/16W 120	PSECI
R8421	ERJ3GEYJ560V	MGF CHIP 1/16W 56	PSECI
R8422	ERJ3GEYJ560V	MGF CHIP 1/16W 56	PSECI
R8423	ERA3YHD750V	MGF CHIP 1/16W 75	PSECI
R8424	ERA3YHD750V	MGF CHIP 1/16W 75	PSECI
R8425	ERJ3GEYJ680V	MGF CHIP 1/16W 68	PSECI
R8426	ERJ3GEYJ330V	MGF CHIP 1/16W 33	PSECI
R8427	ERJ3GEYJ330V	MGF CHIP 1/16W 33	PSECI
R8501	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8502	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8503	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8504	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8518	ERJ3GEYF822V	MGF CHIP 1/16W 8.2K	PSECI
R8520	ERJ3GEYF822V	MGF CHIP 1/16W 8.2K	PSECI
R8533	ERJ3GEYF163V	MGF CHIP 1/16W 16K	PSECI
R8534	ERJ3GEYJ622V	MGF CHIP 1/16W 6.2K	PSECI
R8535	ERJ3GEYF163V	MGF CHIP 1/16W 16K	PSECI
R8536	ERJ3GEYJ622V	MGF CHIP 1/16W 6.2K	PSECI
R8557	ERJ3GEYJ471V	MGF CHIP 1/16W 470	PSECI
R8558	ERJ3GEYJ471V	MGF CHIP 1/16W 470	PSECI
R8565	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	PSECI
R8566	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8567	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	PSECI
R8568	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI
R8572	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	PSECI
R8573	ERJ3GEY0R00V	MGF CHIP 1/16W 0	PSECI
R8801	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	PSECI
R8802	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	PSECI
R8804	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	PSECI
R8805	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	PSECI
R8902	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8903	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	PSECI
R8904	ERJ3GEYJ821V	MGF CHIP 1/16W 820	PSECI
R8905	ERJ3GEYJ331V	MGF CHIP 1/16W 330	PSECI
R8906	ERJ3GEYJ821V	MGF CHIP 1/16W 820	PSECI
R8907	ERJ3GEYJ331V	MGF CHIP 1/16W 330	PSECI
R8908	ERJ3GEYJ560V	MGF CHIP 1/16W 56	PSECI
R8909	ERJ3GEYJ560V	MGF CHIP 1/16W 56	PSECI
R8910	ERJ12YJ270U	MGF CHIP 1/2W 27	PSECI
R8911	ERJ12YJ270U	MGF CHIP 1/2W 27	PSECI
R8912	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	PSECI
R8913	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	PSECI
R8914	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	PSECI
R8917	ERJ3GEYJ100V	MGF CHIP 1/16W 10	PSECI
R8918	ERJ3GEYJ100V	MGF CHIP 1/16W 10	PSECI
R8919	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	PSECI
R8920	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	PSECI

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C8001	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8002	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8003	ECEA0JKA331	ELECTROLYTIC 6.3V 330UF	PSECI
C8004	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8006	F1H1H103A219	C CHIP 50V 0.01UF	PSECI
C8007	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8008	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8009	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8010	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8011	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8012	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8013	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8014	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8015	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8016	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8017	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8018	ECEA0JKA331	ELECTROLYTIC 6.3V 330UF	PSECI
C8019	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8020	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8021	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8022	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8023	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8024	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8025	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8026	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8027	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8028	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI

Ref. No.	Part No.	Part Name & Description	Remarks
C8029	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8030	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8031	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8032	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8033	ECJ1VB1E333K	C CHIP 25V 0.033UF	PSECI
C8034	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8035	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8036	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8037	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8038	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8039	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8040	F1H1H562A219	C CHIP 50V 5600PF	PSECI
C8041	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8042	F1H1E183A029	C CHIP 25V 0.018UF	PSECI
C8043	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8044	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8045	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8046	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8047	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8048	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8049	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8050	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8051	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8052	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8053	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8054	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8055	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8056	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8057	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8058	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8059	ECJ1VC1H330J	C CHIP 50V 33PF	PSECI
C8060	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8061	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8062	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8063	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8064	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8065	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8066	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8067	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8068	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8069	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8070	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8071	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8072	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8073	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8074	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8075	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8076	F1H1H5R0A242	C CHIP 50V 5PF	PSECI
C8077	ECJ1VC1H150J	C CHIP 50V 15PF	PSECI
C8078	ECJ1VC1H150J	C CHIP 50V 15PF	PSECI
C8080	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8081	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8082	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8083	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8086	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8090	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8091	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8401	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8402	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8403	ECEA0JKA331	ELECTROLYTIC 6.3V 330UF	PSECI
C8404	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8412	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8413	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8414	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8415	ECJ1VC1H220J	C CHIP 50V 22PF	PSECI
C8416	ECJ1VC1H220J	C CHIP 50V 22PF	PSECI
C8417	ECJ1VC1H390J	C CHIP 50V 39PF	PSECI
C8418	ECJ1VC1H390J	C CHIP 50V 39PF	PSECI
C8419	ECJ1VC1H390J	C CHIP 50V 39PF	PSECI
C8420	ECJ1VC1H390J	C CHIP 50V 39PF	PSECI
C8421	ECJ1VC1H220J	C CHIP 50V 22PF	PSECI
C8422	ECJ1VC1H220J	C CHIP 50V 22PF	PSECI
C8423	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8424	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8425	F2A0J1010041	ELECTROLYTIC 6.3V 100UF	PSECI
C8504	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8505	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8506	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8507	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8508	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8512	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8513	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8520	F2A1A3300014	ELECTROLYTIC 10V 33UF	PSECI
C8521	F2A1C1010047	ELECTROLYTIC 16V 100UF	PSECI
C8522	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8523	F2A1A3300014	ELECTROLYTIC 10V 33UF	PSECI
C8536	ECJ1VC1H101J	C CHIP 50V 100PF	PSECI
C8537	ECJ1VC1H101J	C CHIP 50V 100PF	PSECI
C8544	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8545	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8553	F1H1H472A219	C CHIP 50V 4700PF	PSECI
C8555	F1H1H472A219	C CHIP 50V 4700PF	PSECI
C8568	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8569	F2A1C1000035	ELECTROLYTIC 16V 10UF	PSECI
C8803	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8805	F1H1A105A028	C CHIP 10V 1UF	PSECI
C8807	ECJ3YF1A106Z	C CHIP 10V 10UF	PSECI
C8808	F2A1A3300014	ELECTROLYTIC 10V 33UF	PSECI
C8809	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8813	F1H1A105A028	C CHIP 10V 1UF	PSECI
C8901	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8905	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8907	F1H1C104A041	C CHIP 16V 0.1UF	PSECI
C8908	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	PSECI
C8909	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	PSECI
C8911	F1H1H102A219	C CHIP 50V 0.001UF	PSECI
C8917	ECJ2FB0J106K	C CHIP 6.3V 10UF	PSECI
C8920	F1H0J1050012	C CHIP 6.3V 1UF	PSECI
C8921	ECJ1VC1H560J	C CHIP 50V 56PF	PSECI
C8922	ECJ1VC1H560J	C CHIP 50V 56PF	PSECI

FILTERS

Ref. No.	Part No.	Part Name & Description	Remarks
FL8502	J0HAAG000015	EMI FILTER CHIP	PSECI

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L8001	J0JCC0000117	EMI FILTER CHIP	PSECI
L8002	J0JDC0000002	EMI FILTER CHIP	PSECI
L8005	J0JDC0000002	EMI FILTER CHIP	PSECI
L8006	J0JCC0000215	EMI FILTER CHIP	PSECI
L8007	J0JDC0000002	EMI FILTER CHIP	PSECI
L8008	J0JDC0000002	EMI FILTER CHIP	PSECI
L8009	J0JDC0000002	EMI FILTER CHIP	PSECI
L8010	J0JHC0000027	EMI FILTER CHIP	PSECI
L8011	J0JCC0000215	EMI FILTER CHIP	PSECI
L8012	J0JCC0000215	EMI FILTER CHIP	PSECI
L8013	J0JCC0000215	EMI FILTER CHIP	PSECI
L8014	J0JCC0000063	EMI FILTER CHIP	PSECI
L8015	J0JCC0000063	EMI FILTER CHIP	PSECI
L8016	J0JCC0000063	EMI FILTER CHIP	PSECI
L8017	J0JCC0000063	EMI FILTER CHIP	PSECI
L8018	J0JCC0000063	EMI FILTER CHIP	PSECI
L8019	J0JCC0000215	EMI FILTER CHIP	PSECI
L8020	J0JCC0000215	EMI FILTER CHIP	PSECI
L8021	J0JCC0000215	EMI FILTER CHIP	PSECI
L8401	J0JDC0000002	EMI FILTER CHIP	PSECI
L8402	G1C270MA0021	COIL CHIP 27UH	PSECI
L8403	G1C270MA0021	COIL CHIP 27UH	PSECI
L8404	G1C330MA0021	COIL CHIP 33UH	PSECI
L8405	G1C330MA0021	COIL CHIP 33UH	PSECI
L8406	G1C270MA0021	COIL CHIP 27UH	PSECI
L8407	G1C270MA0021	COIL CHIP 27UH	PSECI
L8408	J0JDC0000002	EMI FILTER CHIP	PSECI
L8411	ERJ3GEY0R00V	MGF CHIP 1/16W 0	PSECI

Ref. No.	Part No.	Part Name & Description	Remarks
L8412	J0JHC0000068	EMI FILTER CHIP	PSECI
L8413	J0JHC0000078	EMI FILTER CHIP	PSECI
L8414	J0JHC0000054	EMI FILTER CHIP	PSECI
L8415	J0JHC0000068	EMI FILTER CHIP	PSECI
L8416	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8418	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8419	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8420	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8421	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8422	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8424	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8429	J0JHC0000078	EMI FILTER CHIP	PSECI
L8431	J0JCC0000063	EMI FILTER CHIP	PSECI
L8434	J0JCC0000063	EMI FILTER CHIP	PSECI
L8438	J0JHC0000054	EMI FILTER CHIP	PSECI
L8439	J0JHC0000054	EMI FILTER CHIP	PSECI
L8501	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8503	J0JBC0000010	BEAD INDUCTOR CHIP	PSECI
L8517	J0JCC0000063	EMI FILTER CHIP	PSECI
L8518	J0JDC0000002	EMI FILTER CHIP	PSECI
L8901	J0JDC0000002	EMI FILTER CHIP	PSECI

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X8001	H0J270500066	CRYSTAL OSCILLATOR	PSECI

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P8401	K1MN16A00071	CONNECTOR 16P	PSECI
P8402	K1MR11A00017	CONNECTOR 11P	PSECI
P8901	K1MN25B00070	CONNECTOR 25P	PSECI

12.3.6. DVD SUB C.B.A.

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW8951	ESE31R01T	SWITCH PUSH	PSECI
SW8952	ESE31L01T	SWITCH PUSH	PSECI

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